VOLUME 7, NUMBER 1 $4.00 SEPTEMBER 1989
THE MAGAZINE FOR TEACHERS OF THE 1990S

TEACHING and computers

INTO THE 1990S

WHAT'S HERE & WHAT'S AHEAD FOR THE TECHNOLOGY-USING TEACHER

Community Oral History Project

Super Page Series: Computer Crusaders

NEW! The Inservice Workshop

Computing pioneer Bobby Goodson.

SCHOLASTIC

Finally, a computer for computer experts for their

Introducing the revolutionary HeadStart® Explorer, the first computer that satisfies all your needs. Plus the need to save you money.

The HeadStart Explorer Puts YOU In Command.

Explorer's revolutionary new features and unique program design provide you with an ultra-friendly operating environment which allows you to immediately begin enjoying all the benefits of a personal computer…even if you've never touched one before!

From the moment you plug it in, the Explorer lets YOU be in control.

Flip the "ON" switch and the menu immediately appears.

Instead of confusing words or computer phrases, simple on-screen graphics allow you to choose the file you want to work on, and you won't have to memorize complicated commands.

Now everyone in the family can become a computer expert.

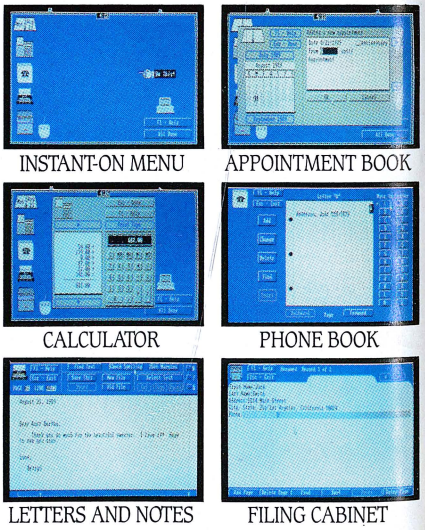
The HeadStart Explorer Packs Extraordinary Muscle, Memory And Speed In One Small Compact Size.

With an 8088-1 micro processor operating at a fast "turbo" 10 Mhz, plus having a 512K memory (that's easily expandable to 768K), the Explorer has it all.

Fully IBM compatible, the Explorer features built-in DOS, applications and a clock/calendar in its system.

HeadStart Technologies has also put all of the peripheral support inside the Explorer to allow for its sleek design and easy storage and convenience.

"Instant-On" Application Animated Graphics.



Exclusive Fold Up Space Saver Keyboard

Snap-Out Cover for Auto-Magic Hard Disk Plug-In

Easy Access for 3.5" 720 K Floppy Disk

LOW PROFILE SPACE-SAVER DESIGN

advanced enough and simple enough parents.

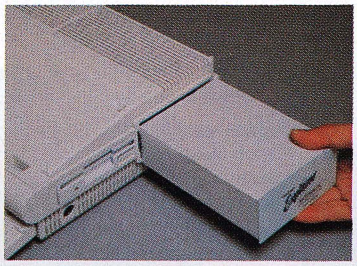
The HeadStart Explorer Is Ready To Grow With You.

Now you can add to the system when you need to.

There are built-in parallel and serial ports for a printer and modem, plus a mouse port, game port, monitor port and an external floppy disk that can be attached immediately.

The hard drive, RAM expansion and even an additional peripheral card can be added without opening the computer.

There is no XT personal computer that is more expandable.



ADDING A HARD DISK DRIVE IS JUST A SNAP! Simply plug in the AUTO MAGIC℠ 40 MB Hard Disk Drive cartridge (optional),

PLUG-IN 256K RAM Pac™ HeadStart RAM PAC expands your RAM memory from 512K to 768K (640K to DOS, 128K to printer buffer.)

The HeadStart Explorer Even Comes With A Coach.

HeadStart is so committed to the idea of simple, easy, trouble-free computing, we even give you your own computer coach.

Just call the special toll-free number we give you when you buy a HeadStart, and your PC coach will answer any and all questions that may come up.

Affordable And Compatible With The Whole Family.

The HeadStart Explorer is perfect for education, Mom's household planning, and Dad's home office and business.

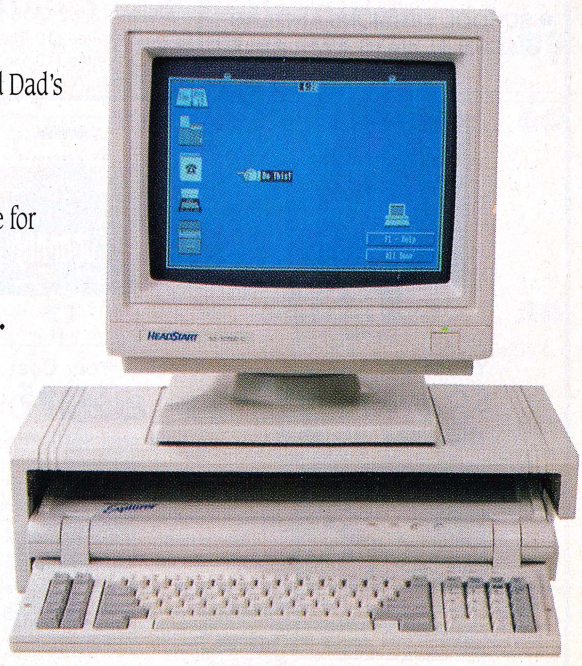
So now that the right computer has arrived, why not come in and buy one.

The complete system with CPU and color monitor retails for only $949.

HeadStart also offers all the peripherals at a very affordable price, like the mouse for only $29.95.

The HeadStart Explorer…a great system at a great price.

For the HeadStart Explorer dealer nearest you, call toll free: **800-882-1888.**



HEADSTART® Explorer

Built To Be Compatible With You.

CIRCLE 1 ON READER SERVICE CARD

©1989 HeadStart Explorer is a registered trademark of HeadStart Technologies Co. A division of North American Philips Corporation.
IBM is a registered trademark of International Business Machines Corporation.

CALL FOR A FREE 120 PAGE CATALOG

EDUCATIONAL RESOURCES

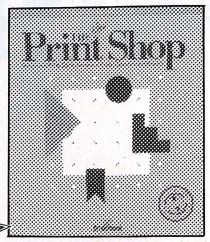
YOUR SINGLE SOURCE SUPPLIER FOR COMPUTER SOFTWARE • DISKETTES • ACCESSORIES

USA/CANADA TOLLFREE
1-800-624-2926

IN ILLINOIS CALL
312-884-7040

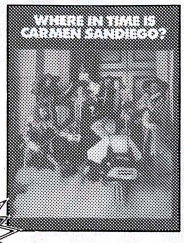
$AVE UP TO 50% EVERYDAY

- OVER 5,000 SOFTWARE TITLES AVAILABLE
- LOWEST PRICES EVERYDAY WIDEST SELECTION BEST SERVICE
- NAMED BY EDUCATORS AS ONE OF THE MOST RELIABLE SOFTWARE DISTRIBUTORS IN AMERICA !
- HUNDREDS OF PUBLISHERS AND TOPICS TO CHOOSE FROM
- SCHOOL VERSIONS AND LAB PACKS ALWAYS AVAILABLE



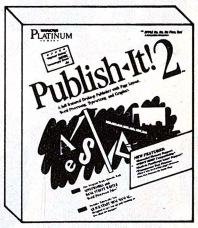
NEW

Your Cost
$28.95 $35.95
APL IBM/IIgs



NEW

Your Cost
$24.95
APL/IBM IIgs Compatible
School Version $31.95



2.0 Version

Your Cost
$74.95
APL
IIgs Compatible

School & Business/Sampler/Party Edition $23.00 ea. School versions add $7.00
APL Available in December. Please order separately!

PROJECT YOUR BEST IDEAS WITH THIS PRESENTATION PACKAGE!

Infocus 400AVS PC Viewer $669.00

- **Higher resolution!** 640 x 400
- Sturdy Metal School Case
- APL/IBM/MAC compatible*
- High heat resistant supertwist LCD

*Mac+ & SE require AVS20.

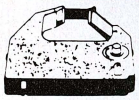
Your Cost $99.95

$249.95 **Dukane PORTABLE Overhead Projector Model 28A641**

NEW

- Weighs only 17 lbs.
- Designed to move easily from one place to another!
- Comes with carrying case!

LOWEST RIBBON & ACCESSORY PRICES



(Quantities of 6)

Imagewriter I & II*	$ 2.50	Epson LX 80/90*	$ 2.50
Imagewriter II 4 Color Ribbons	5.75	Espon MX 100	4.00
Imagewriter II 4 Color Heat Trans	13.95	IBM Pro Printer	3.50
Panasonic KX-P 1090,1091,1092*	3.25	Okidata 182/192/193*	2.99
Epson MX/FX/RX 70,80*	2.50	**Call If You Don't See It!**	

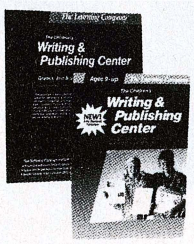
* Available in Most Colors: Red, Green, Blue, Purple & Yellow - Add $1.00 Each.

DISKETTES/PAPER

Diskettes - 5-1/4 ", DS/DD	$ .38
Diskettes - 3-1/2 ", DS/DD	1.19
Color Diskettes (10 Pk., Asst.) 5-1/4"	6.95
Color Diskettes (10 Pk., Asst.) 3-1/2"	14.50
Color Paper, Asst., 250 Sheets	10.95

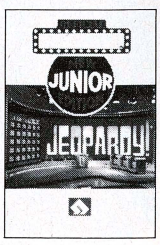
ACCESSORIES

Computer Eyes, B/W IIe/IIc..	$102.95
Computer Eyes, Color, IIgs..	204.95
Thunderscan	189.95
Kraft KC3 Joystick	19.95
Surge Protector (6 Outlet - 6' Cord)..	19.95
System Saver IIgs	$75.95
Disk Notcher	3.95
80 Col. Printer Stand	19.95
Diskette Storage 60	9.95
Mouse Pads	4.95

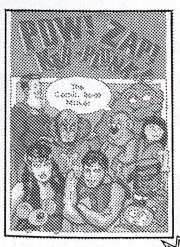


Your Cost
$34.95
APL/IIgs

School Version $59.95
Lab Pack(s) $99.95



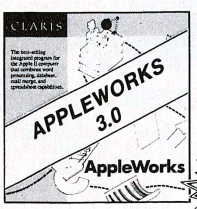
Your Cost
$9.95
APL



Your Cost
$32.95
APL/IIgs compatible

NEW

Your Cost
$27.95
IIgs/IBM w/ Echo Board



NEW

Your Cost
$179.95 $199.95
APL 128K IIgs 1.25 mb

NEW

Your Cost
$39.95
APL/IIgs compatible

MAIL SCHOOL P.O.'S TO: **EDUCATIONAL RESOURCES**
2360 HASSELL ROAD
HOFFMAN ESTATES, IL 60195

VISA MasterCard

Prices effective Aug-Sept.
Checks and School P.O.'s welcome.
$50 minimum on charge cards.
Add 5% shipping with a $3.00 minimum.
Canada add 10% with a $5.00 minumum.
Free shipping over $300.00 (Continental U.S. only).
New Free Video Catalog. Call!

CALL FOR A FREE 120 PAGE CATALOG

TEACHING and computers

VOLUME 7, NUMBER 1 SEPTEMBER 1989

CONTENTS

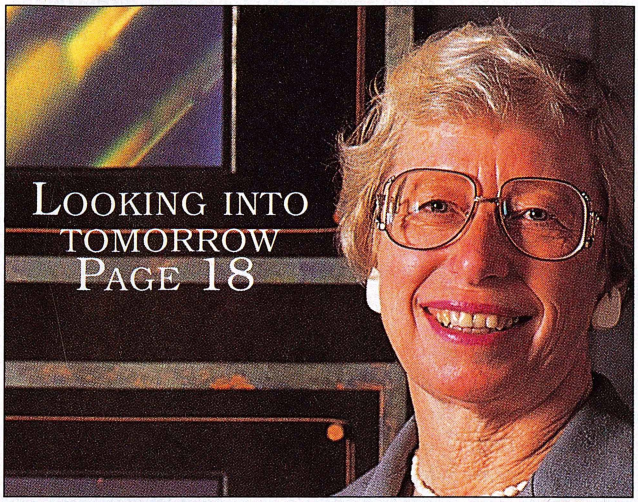
Teacher Features

INTO THE 1990s
Trailblazing computer-using teacher Bobby Goodson looks at where educational technology has been, where it's going—and what it all means for you!.....**18**

TELL IT LIKE IT WAS!
With this oral history class project, your students will use a word processor and a data base to learn more about their community while strengthening their critical thinking skills.....**24**

ELECTRONIC LESSON PLANS
SCIENCE: Food Files
MATH: How Fast Is Fast?
LANGUAGE ARTS: Sci-Fi Thriller
SOCIAL STUDIES: Self-Esteem Booster.....**38**

Cover and top photo by Jeanne Strongin. Thanks to AT&T InfoQuest



Classroom Materials

COMPUTER CRUSADERS SUPER PAGE
Adventures in the Realm of Word Processing.....**29**
COMPUTER CRUSADERS TEACHING GUIDE
Management tips and student activity cards.....**29**
THE CREATIVE COMPUTING STUDIO
Creativity skills task card series. This issue: *Connections*.....**50**

Columns and Departments

UPDATE 6
News for computer-using teachers.

CLASSROOM HAPPENINGS 10
What's happening in computer classrooms.

INSERVICE WORKSHOP 12
A guide for teachers helping teachers.

WELL-MANAGED CLASSROOM 14
Computer solutions for your administrative tasks.

FIRST STEPS 44
Computer activities for the primary grades.

MICRO IDEAS 48
Quick computer tips and activities.

SOFTWARE SHOWCASE 54
Software recommended for teachers by teachers.
- **Elastic Lines**
- **Friendly Filer 128**
- **The Weather Machine**
- **Math Shop Jr.**

PLUS
Added Attractions

TEACHING AND COMPUTERS® (ISSN 0738-6087) is published six times during the year; monthly September and October, bimonthly November/December through May/June; by Scholastic Inc., 730 Broadway, New York, NY 10003-9538 for $23.95 per year, $13.95 for five or more subscriptions to the same address. Single copy, $4.00. (For Canadian pricing, write our Canadian office, address below.) Second-class postage paid at Monroe, OH 45050-9998 and at additional offices. POSTMASTER: Send notice of address changes to Office of Publication, TEACHING AND COMPUTERS ®, 351 Garver Rd., Box 2700, Monroe, OH 45050-2700. Address subscription correspondence to TEACHING AND COMPUTERS®, P.O. Box 2040, Mahopac, NY 10541. Canadian address: Scholastic-TAB Publications, Ltd., Richmond Hill, Ontario L4C 3G5; in the United Kingdom: Scholastic Publications, Ltd., Westfield Rd., Southam, Leamington Spa, Warwickshire, England DV330JH; in Australia: Ashton Scholastic Pty., Ltd., P.O. Box 579, Gosford, N.S.W. 2250, Australia; and in New Zealand: Ashton Scholastic Ltd., 7-11 Fairfax Ave., Penrose, Auckland 6, New Zealand. Available on microfilm through Xerox University Microfilms, Inc., 300 N. Zeeb Rd., Ann Arbor, MI 48106. Also available on microfiche through Bell & Howell Micro Photo Division, Old Mansfield Rd., Wooster, OH 44691. Printed in U.S.A.

Copyright © 1989 by Scholastic Inc. All Rights Reserved. Member, Audit Bureau of Circulaions. Permission is granted to make machine copies of material in this issue for classroom use only. **Permission to reproduce material in this issue, in whole or part, in any form or format, for all other uses, must be requested from the publisher.**

FROM THE EDITOR

A Look Inside T&C

A New Year, a New Decade, And a Whole New Era!

At *Teaching and Computers,* we're looking forward to the 1990s. From where we sit, this last decade of the 20th century promises to bring into full bloom many exciting developments that have long been germinating among creative, innovative teachers like you— teachers who will be leading the way for American education in the 21st century.

As longtime computer-using teacher Bobby Goodson points out in our cover story this issue, school is likely to be a very different place in the coming years. No longer content to deliver the same old limited information in the same old outmoded ways, teachers like you are already experimenting, exploring, and combining the best of today's methods with the most promising of tomorrow's. You're constantly finding new uses for your classroom computer... and *T&C* will be right there with you.

For example, one of the hallmarks of education in the future is expected to be diversity. Forward-looking teachers are already drawing on multiple disciplines and teaching resources to approach subjects from a variety of angles in their classrooms. This year as last, the "class project" in each issue of *T&C* (such as this issue's oral history feature beginning on page 24) provides an easy-to-use model for implementing this approach in your classroom, working with today's time constraints and today's technology.

Another key to the educational future will be the development of our students as agile, creative thinkers. This year's "Creative Computing Studio" task card series (page 50) looks like the ultimate in fun for kids, but it's also carefully planned to sharpen and nurture creative skills that can be applied across the curriculum and beyond.

We'll also continue to provide new ideas for teaching traditional subjects with technology. Our "Electronic Lesson Plans" (page 38) and "Micro Ideas" (page 48) are both intended as sources of straightforward, practical classroom applications to help build your computing repertoire. For our readers who teach younger children, "First Steps" (page 44) helps integrate technology with the latest early learning classroom strategies.

Like you, we're constantly on the lookout for new and better ways to do the things we do. For example, in response to your feedback last spring, we've rededicated ourselves to making this magazine as easy to use as possible for the widest variety of readers. You'll be finding "at a glance" boxes to guide you through our longer articles, and clearly marked activities and ideas for beginning computer-users. We're expanding on the tradition we started last year of suggesting adaptations for special groups of students and special classroom settings. We've also added a new column this year called "The Inservice Workshop" (page 12 this issue) to provide direct support to our many readers who do inservice technology training with their colleagues at the building or district level.

And then there are the aspects of innovation, for us as well as for you, that are sheer excitement in and of themselves. That's how we feel about our new "Computer Crusaders" Super Page series— creating super heroes to match essential computer applications has been as invigorating for us as meeting the super heroes will be for your students!

We're also excited about the facelift we've given to the inside pages of *T&C,* largely as a result of the new Macintosh-based desktop publishing system we're launching with this issue. For us, the transition from traditional production methods to the world of mice, windows, and icons has made us more aware than ever of the challenges computer-using teachers conquer everyday!

At *T&C,* we're being assisted in our technological challenges this year by our new Production Editor, Pamela Keenan Foster. Pamela joins the rest of the *T&C* staff in welcoming you back for another great year— and the beginning of a great new era for technology-using teachers!

M. Revenaugh

TEACHING and computers

OFFICES 730 BROADWAY, NEW YORK, NY 10003

ASSOCIATE PUBLISHER/ EDITORIAL DIRECTOR JACK L. ROBERTS
EDITOR MICKEY REVENAUGH
ASSOCIATE EDITOR LOUISE C. ORLANDO
PRODUCTION EDITOR PAMELA KEENAN FOSTER
ASSISTANT EDITOR BILL MORGAN GOSEWISCH
EDITORIAL INTERN ANDREW WEBER
ART DIRECTOR SHELLEY LAROCHE-STANSFIELD

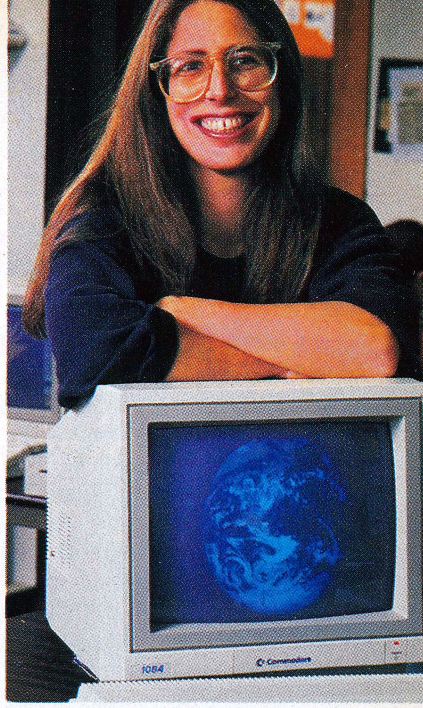
ASSOCIATE PUBLISHER BRUCE J. GARDNER
NEW YORK OFFICE 730 BROADWAY, NEW YORK, NY 10003; 212/505-3482
EASTERN REGION SALES OFFICE ANN BOLLENBACK 730 BROADWAY, NEW YORK, NY 10003; 212/505-3494
MIDWEST REGION SALES OFFICE JANET FENNELLY 400 N. MICHIGAN AVE., CHICAGO, IL 60611; 312/467-6888
WESTERN REGION SALES OFFICE SUSAN FLORA 4640 ADMIRALTY WAY, MARINA DEL REY, CA 90291; 213/827-9183
CLASSIFIED SALES REP. GREG RAPPORT, 212/505-3587
ADV. PRODUCTION MANAGER LAURA ROSENZWEIG/ MIMI ESQUERRA
MARKETING SERVICES MANAGER CORONA GRAY-MOORE, 212/505-3485

VICE PRESIDENT STEPHEN BERNARD
BUSINESS MANAGER BOB MITCHELL
DIRECTOR, PRODUCT PRODUCTION J.G. BROWNELL
OPERATIONS MANAGER GAY SICCARDI
CIRCULATION DIR. TERRY PERKINS
MANUFACTURING MANAGER GEORGE MARSH
CIRCULATION COORDINATOR ALISON LUBA
CIRCULATION PROMOTION DIRECTOR IRV COHN
HEAD PROMOTION DESIGN DIRECTOR DALE MOYER
PUBLIC RELATIONS DIRECTOR JEANNE KRIER
SYSTEMS MANAGER DAVID HENDRICKSON
PRODUCTION MANAGER RICHARD WALSH
TECHNICAL CONSULTANT LANCE PAAVOLA
CHIEF LIBRARIAN LUCY EVANKOW
PHOTO RESEARCHER GRACE HOW
PERMISSIONS NANCY GIRALDO

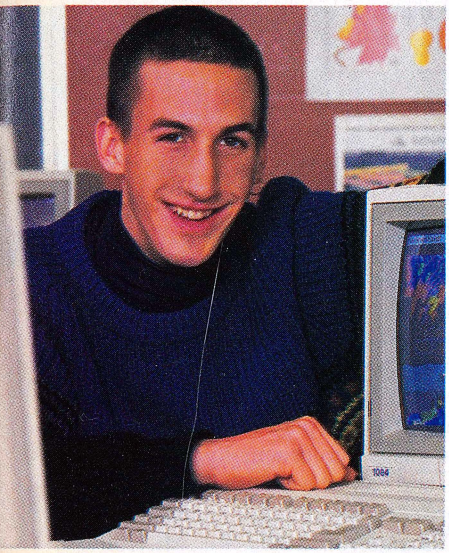
ADVISORY BOARD: Ann Dana, Microcomputer Consultant for School District 181, Hinsdale, IL • Carol Edwards, Director of Project MiCRO, Southern Coalition for Educational Equity, Altanta, GA • Beth Lazerick, Secular Studies Principal, Hebrew Day Institute, Rockville, MD • Tom Lough, Founding Editor, *National Logo Exchange* Magazine, Simsbury, CT • Steve Tipps, West Professor of Education, Midwestern State Univ., Wichita Falls, TX.

Dinah Fried, age 7½
Avante Garde Computer Artist

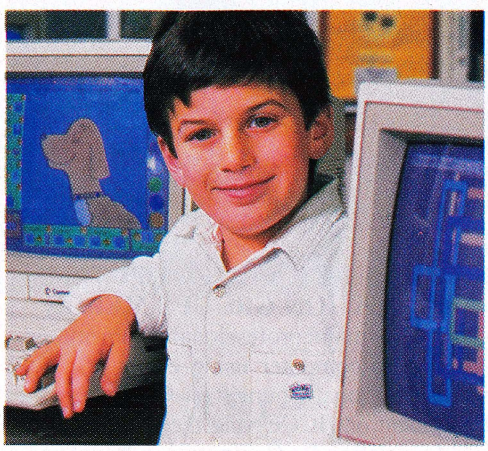
Matt Wagner, age 17
Music Video Producer



Lauren Weinger, age 32
Educator



Alex Clifton, age 17
Computer Graphic Designer



John Rudikoff, age 8
Animation Specialist

Anthony Valencia, age 13
Audio Research Scientist

Amiga Achievers

Meet the Amiga® Achievers. They're part of a new generation of students and educators who use Commodore® Amiga personal computers to open the door to new worlds of interactive learning.

They're exploring the world of art, using the Amiga's exceptional graphics power to paint and animate in up to 4096 colors. They're discovering a world of digital sound and music, using the Amiga's built-in 4-voice stereo synthesizer.

They're also tapping into the vast creative learning potential of video. That means teachers can tape computer-generated lessons. Students can save their work on video, too—even create Amiga-generated stories and music videos.

The Amiga is versatile enough to fit into virtually any curriculum. There are over 1200 published educational programs—covering all grade levels and dozens of subjects. For teachers, there are a wide variety of powerful productivity programs to choose from.

Join the Amiga Achievers. Call 1-800-627-9595, ext. 500, for the name of your nearest Commodore educational dealer and more facts about the full line of Amiga computers.

Commodore®
AMIGA®
Only Amiga Makes It Possible.

© 1989 Commodore Electronics, Ltd. Commodore and the Commodore logo are registered trademarks of Commodore Electronics, Ltd. Amiga is a registered trademark of Commodore-Amiga, Inc.

CIRCLE 3 ON READER SERVICE CARD

UPDATE

News for Computer-Using Teachers

BY LOUISE C. ORLANDO AND ANDREW WEBER

DEADLINE EXTENDED FOR INNOVATION PAPERS

The National Foundation for the Improvement of Education has set October 6, 1989 as the new deadline for the "Call for Innovation in Practice" component of its Learning Tomorrow program. Through the Call, teachers are encouraged to submit papers describing their innovative applications of technology in education. The 20 most outstanding entries will be awarded $500 honoraria. For entry guidelines and information, contact the National Foundation for the Improvement of Education, 1201 16th Street, N.W., Washington, DC 20036, 202/822-7840.

"LEARN" SEEKS IBM-USING EDUCATORS

A charter membership campaign is underway for Learn, an international volunteer user group dedicated to the improvement of education by fostering more effective use of IBM computer-assisted educational and administrative systems. Membership is open to all those who actively use IBM products in pre-K-12, adult literacy, and non-collegiate vocational educational settings. Learn membership benefits include newsletters, a user group directory, national electronic conferencing, and an annual membership meeting. To join, contact Learn National Headquarters, Attn.: Membership Services, P.O. Box 752, Georgia State University, Atlanta, GA 30303-3083, 800/233-9233.

CAMERON ANNOUNCES COMPUTER ART CONTEST

The future Rembrandts and Picassos in your school's computer lab have a chance to win $200 in prizes and have their masterpieces published in a new magazine.

Cameron Publishing Company, of Ormond Beach, FL, is sponsoring a computer art contest for students in grades 6-12. Students may submit either black and white or color computer art. Entries will be judged on clarity, neatness, originality, creativity, artistic merit, and the ability to use the computer as an artistic tool.

First prize is a $200 library of computer books, second prize a $100 library, and third prize a $50 library. Ten additional entries will receive honorable mention.

The contest will promote Cameron's new magazine, *Computer Images* 1990. All prize winning entries along with honorable mentions will be published in the premier issue and will also be exhibited at several computer education conferences in 1990.

The deadline for entries is December 31. For complete rules and guidelines write Camelot Publishing Company, P.O. Box 1357, Ormond Beach, FL 32075; 904/672-5672.

(Circle 101 on Product Info. Card.)

INTERNATIONAL COMPUTER EDUCATION GROUPS MERGE

Two major professional organizations serving computer using educators, the International Council for Computers in Education (ICCE) and the International Association for Computing in Education (IACE), have merged to form the International Society for Technology in Education (ISTE). The new organization will be a focal point for communication and collaboration in educational computing.

ISTE will publish *The Computing Teacher* journal, *Update* newsletter, and *The Journal of Research on Computing in Education*. It will continue to conduct workshops, seminars, and distance learning activities.

Members of ISTE include, amoung others, classroom teachers, teachers of computer science, computer curriculum coordinators, and administrators.

If you would like more information, contact ISTE, 1787 Agate St., Eugene, OR 97403; 503/686-4414.

FRAZZLED MAC USERS FIND PHONE RELIEF

You won't hear Santa Claus, He-Man, or D.J. Jazzy Jeff when you call this new 900 number. Instead, callers to 1-900-860-HELP will get professional answers to any Macintosh question.

Support Inc., a California based company, has created the first interactive service number for the Macintosh. The service operates daily from 7 a.m. to 10 p.m. Soon, Support will be be open 24 hours a day and will answer questions about MS-DOS as well.

Teachers may find the Support line an inexpensive alternative to consultants, who often charge by the hour. A Support call costs $2 for the first minute and a dollar each additional minute. Teachers do not need their parents' permission before dialing.

(Circle 102 on Product Info. Card.)

HANDY HIGH-TECH SPELLERS

Put an end to the "where's the dictionary— how do you spell it" blues with Franklin Computer's hand-held computers. New from Franklin are The Elementary Spelling Ace, packaged with Merriam Webster's Elementary School Dictionary for children ages 6-12 ($99) , and The Language Master 4000 ($399), for middle and high school students. Both models do more than check spelling. Spelling Ace can play word games, and the Language Master actually pronounces words and can be used as a drill tool.

For more information, contact Franklin Computers, 122 Burrs Rd., Mt. Holly, NJ 08060; 609/261-4800.

(Circle 103 on Product Info. Card.)

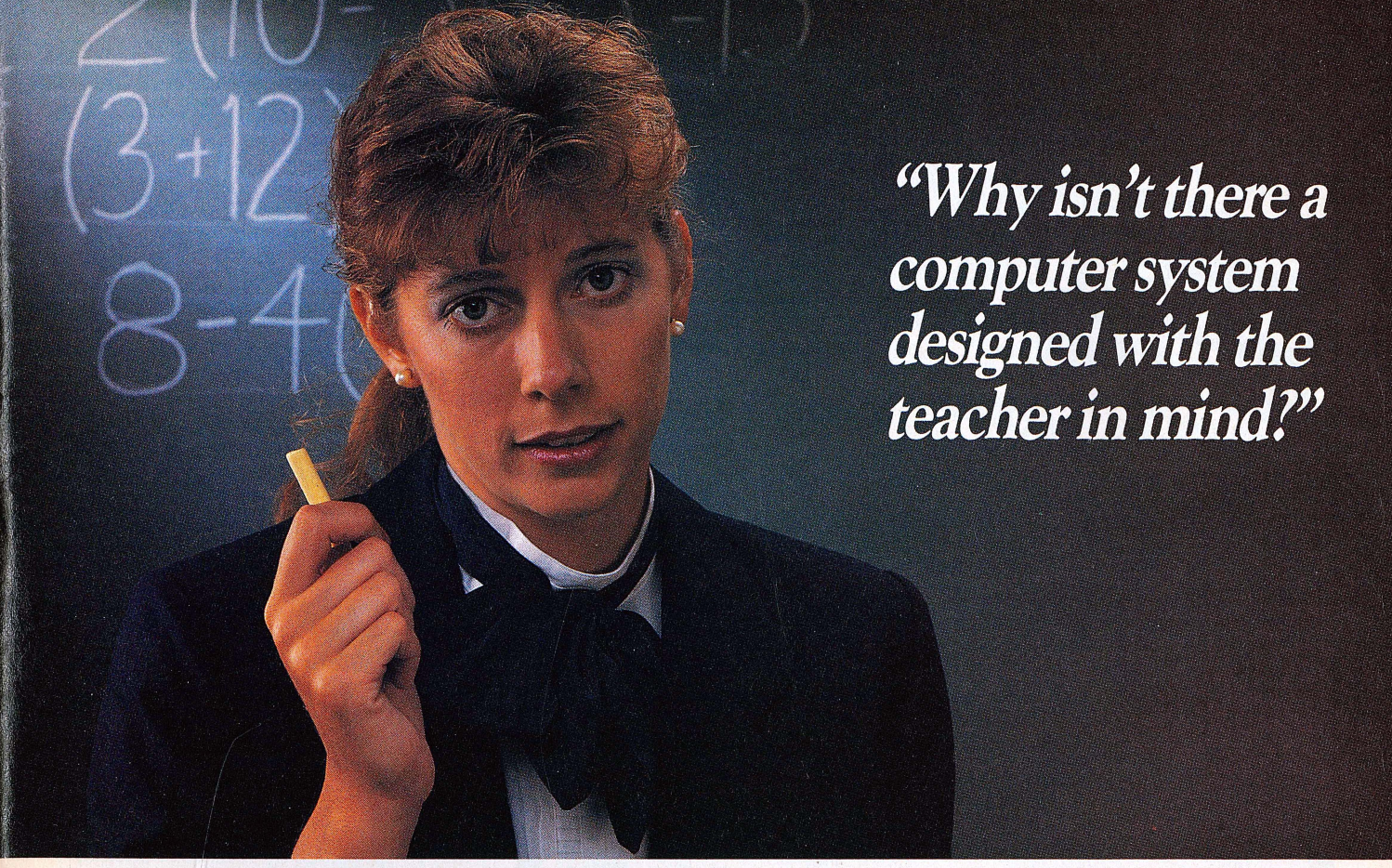
100 APPLE AND MS-DOS PUBLIC DOMAIN PROGRAMS

The best of public domain software for Apple and MS-DOS compatible computers is now available through Advantage Computing. The software for each type of computer comes on five double-sided disks. Included in each set are educational programs for pre-school through high school, programs to help you get organized, and action and thinking games.

As an added bonus for Apple users, Advantage Computing is including, free of charge, a complete Apple elementary math course (25 different programs, each presenting a new math concept) and a full featured word processor. Write to Advantage Computing, 1803 Mission St., Suite 416, Santa Cruz, CA 95060.

(Circle 104 on Product Info. Card.)

(continued)



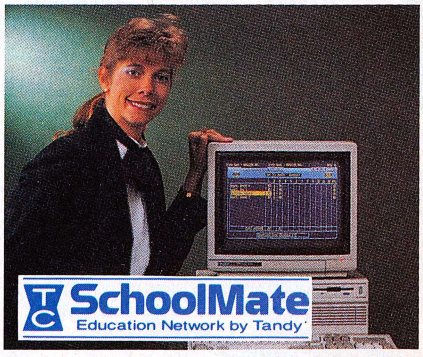
PCs *can* work for you— Discover the SchoolMate™ Solution!

If you've shied away from PCs because they're too intimidating, now there's good news! Say hello to SchoolMate, the "people-oriented" network for teachers and students. SchoolMate uses the DeskMate™ Graphical User Interface to bring a friendly look and feel to classroom computing. DeskMate uses plain English commands to guide you through each program with simple "point-and-click" convenience.

SchoolMate uses the proven 3Com workgroup to link together Tandy and other PC-compatible computers throughout a classroom, department, or even an entire school. Every person on the network uses the same easy commands throughout.

The ultimate in "teacher ease." SchoolMate puts the teacher in charge, with a wide choice of programs by leading publishers that can be placed on the network. Plus, built-in classroom productivity tools let you quickly create a class roster, set up a grade book, schedule lessons and generate exams.

Make it easy on yourself. Call 1-800-321-0160, and let one of our Education Marketing Managers tell you how to get the SchoolMate solution working for you.



Make it easy on yourself—discover the SchoolMate Solution at . . .

Radio Shack®
COMPUTER CENTERS
A DIVISION OF TANDY CORPORATION

CIRCLE 4 ON READER SERVICE CARD

Circle 5 on Reader Service Card.

DISCOUNTS to 50% OFF RETAIL
BACK-TO-SCHOOL SPECIALS
APPLE • MAC • IBM
LS Learning Services
For All Your Computing Needs

REVOLUTIONIZE YOUR CLASSROOM
• EXCELLENT FOR INSTRUCTION . . . YOUR WHOLE CLASS CAN PARTICIPATE • SITS ON TOP OF YOUR OVERHEAD PROJECTOR

MODEL 200S Best Buy! LS Price $647
Retail $895
High Contrast Blue & Yellow Display, 640 x 200 pixel resolution, 8 shades or 8 patterns to represent colors. Use with Apple II series and IBM/compatibles with Color Graphics adapter (CGA).

The PC Viewer
MULTI-SCAN HIGH RESOLUTION PC VIEWERS
MODEL 480S Retail $1295 $993
640 x 480 pixel resolution; for Apple II, Macintosh and IBM/compatibles.
MODEL 480GS Retail $1595 $1293

ELMO OVERHEADS
ULTRA-BRIGHT . . . SUPER-COOL
Classroom model ($279 Retail) HP L355 . . . $237
Portable model ($499 Retail) HP 285S . . . $425

LEARNING SERVICES TOP 10 EDUCATIONAL SOFTWARE TITLES

	Title / Publisher	Retail	IIgs	Ap II	IBM	Mac
1.	Children's Wrtg & Pub Center (Sch)	89.95-99.95	49.00	49.00	70.00	n/a
	Children's Wrtg & Pub Center (Lab)	159.95-169.95	87.00	87.00	135.00	n/a
	/Learning Co.		*64.97	64.97	140.00	279.00
2.	Publish It! — Latest Version	130-395.95	*109.00	109.00	n/a	n/a
3.	Timeout Word Pack / Beagle Bros.	189.95				
	(Includes T.O. Quickspell, Thesaurus, Superfonts)	44.95-59.95	42.00	35.00	42.00	42.00
4.	Print Shop / Brøderbund	54.95-69.95	49.00	42.00	49.00	49.00
	Print Shop (School)	149.85	107.00	103.00	107.00	n/a
5.	Carmen SanDiego Series / (B)	54.95	*39.00	39.00	39.00	n/a
	Carmen Europe (Sch)	49.95-54.95	39.00	39.00	39.00	42.00
	Carmen U.S.A. (Sch)	44.95-49.95	39.00	35.00	35.00	39.00
	Carmen World (Sch)	49.95	*35.00	35.00	35.00	n/a
6.	VCR Companion / Brøderbund	59.95	*42.00	42.00	42.00	n/a
	VCR Companion (Sch)	49.95	35.00	35.00	35.00	n/a
7.	Math Blaster Plus / Davidson	119.95	*84.00	84.00	n/a	35.00
8.	Logo Plus (Sch) / Terrapin	29.95-49.95	*35.00	35.00	35.00	n/a
9.	Crossword Magic / Mindscape	59.95	*42.00	42.00	42.00	n/a
	Crossword Magic (Sch)	79.95	*64.00	64.00	n/a	n/a
10.	Gradebusters 1/2/3 / Gradebusters					

All prices subject to change
*uses the Apple II version

HARDWARE — LS

APPLIED ENGINEERING
5.25" Disk Drive (Half Height) 129.00
Vulcan 20meg Apple Hard Disk 557.00
Ramworks III 256K 183.00
Transwarp GS 343.00

AVATEX
1200 Baud Modems 79.00
2400 Baud Modems 197.00

DIGITAL VISION
Computer Eyes IIe 103.00
Computer Eyes IIgs, Mac, IBM 203.00
Computer Eyes Color, IBM 327.00

MEMORY / CARDS
LS Super IIe Expanded 256k 177.00
LS Super IIe Expanded 512k 157.00
LS 64/80 Extended 80 Column Card 29.00

THUNDERWARE
Thunderscan IIe 197.00
Thunderscan Mac 225.00

ZIP TECHNOLOGIES
Zip Chip 4MHz 127.00
Zip Chip 8MHz 177.00
Zip Chip IIgs 257.00

New For Fall

HYPER MEDIA:
Hyperstudio (IIGS) 84.00
LinkWay™ (IBM) 110.00
TutorTech (Apple II/IIGS) 157.00
AppleWorks™ 3.0 (App II) 179.00
with 256k expander 357.00
Comic Book Maker (App II) Sch 39.00
Cosmic Osmo® (MAC) 49.00
Studio/1 (MAC) 97.00
Where In Time is Carmen San Diego? (App, IBM) Sch 39.00

Beagle Brothers:
GS Font Editor 28.00
Point to Point 65.00
Program Writer 28.00
Timeout Report Writer 45.00
Timeout Telecom 38.00

ACCESSORIES — LS

DISKS
3.5" DSDD Bulk Diskettes .99
3.5" DSDD Bulk Color Diskettes 1.25
5.25" DSDD Bulk Black Diskettes .37
5.25" DSDD Bulk Color Diskettes .60

RIBBONS
Apple ImageWriter Black 2.75
Apple ImageWriter 4-Color 5.75
Apple ImageWriter Underware 15.00
Epson MX/FX/RX 70/80 3.00
Epson LX 80/90 3.00
Okidata 182/192/193 10.00
Panisonic Brand 1080/91/92 6.00
IBM Proprinter 28.00

MISCELLANEOUS
CH Products Mach II Joystick 35.00
CH Products Mach III Joystick 53.00
CH Products Flight Stick (Apple) 56.00
CH Products Flight Stick (IBM) 72.00
Kensington System Saver IIe 79.00
Kensington System Saver IIGS 8.00
Amaray Disk Storage Case 5.25" 7.00
Amaray Disk Storage Case 3.5" 5.00
American Covers Mouse Mat 4.00
Disk Notcher 6.00
Computer Hand II

61 West Eighth • P.O. Box 10636 • Eugene, OR 97440-2636
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE
ORDER TOLL FREE 1-800-435-3276
1-800-43 LEARN
• PURCHASE ORDERS ACCEPTED • FREE SHIPPING WITH
CALL FOR FREE CATALOG • $100 MINIMUM PURCHASE

UPCOMING CONFERENCES

1989

September 22-24: AppleFest'89, sponsored by Apple Computers. Brooks Hall/Civic Auditorium, San Francisco, CA. Contact: Cambridge Marketing, One Forbes Rd., Lexington, MA 02173; 800/262-FEST.

October 17: MAINEducation Conference: Making Connections for Change. Augusta Civic Center, Augusta, Maine. Contact: Maine Computer Consortium, PO Box 620, Auburn, Maine 04210; 207/783-0833.

October 19: CALICO Regional Seminar, co-sponsored by Illinois Council of the Teaching of Foreign Language. Contact: Connie Curtain, University High School, University of Illinois, 1212 W. Springfield, Urbana, IL 61801; 217/333-2870.

October 27-28: 1989 Fall Computer Using Educators Conference (CUE), co-sponsored by East Bay CUE. Double Tree Inn and Santa Clara Convention Center, Santa Clara, CA. Contact: CUE, Inc., P.O. Box 2087, Menlo Park, CA; 415/328-2248.

October 30-November 1: IBM Schools Executive Conference. Stouffer Waverly Hotel, Atanta, GA. Contact: Your IBM marketing representative.

1990

January 30-February 2: Florida Educational Technology Conference. Daytona Beach, FL. Contact: Shirley McCandless, Office of Educational Technology, Florida Department of Education, Florida Education Center, Level B1-54, Tallahassee, FL, 32399; 904/488-0980.

July 9-13: The Fifth World Conference on Computers in Education, Sydney, Austrailia. Contact: WCCE/90, PO Box 319, Darlinghurst, NSW 2010, Australia; 612/211-5855.

Most integrated software packages give you more power than you need for the classroom...and at a *big* price.

When you're introducing students to the concepts and capabilities of integrated software, you don't want the complexity of the software to stand in their way. And you don't what to teach from a user's guide that reads like it was written for engineers. You are going to want...

MicroTools: Integrated Software for Word Processing, Spreadsheet, and Database.
It's new! It's affordable! And it's designed just for educational use!

With **MicroTools**, you'll get all the important features students will need in order to understand the concepts and applications of integrated software. Plus, you'll have the educational tools to create an exciting course for high-school and junior-high students:

- *Integrated software* for Apple® IIe, IIc, and IIGS™ (5-1/4" format only); IBM PC, PCjr®, and Personal System/2™; and Tandy® 1000 microcomputers
- A learn-and-do *tutorial text-workbook*
- A *reference handbook* of software commands
- *Template diskette* with prestored files for completing applications
- *Teacher's Manual* with instructions for using the software, strategies for teaching the chapters, and more

Oh, and the price? You can get the **MicroTools** integrated software for as little as $13* per copy through our Product Area License Program.

Stock No. J16
*Price subject to change without notice.

For more information on **MicroTools**, call (800) 543-7972.

SOUTH-WESTERN
SCHOOL DIVISION

CIRCLE 6 ON READER SERVICE CARD

CLASSROOM HAPPENINGS

What's Happening In Computer Classrooms

BY LOUISE C. ORLANDO

CHECK IT OUT!

Checking out books at the Black Bob Elementary School library in Olathe, Kansas, is a snap. Ever since Mary Eileen Grosdidier added *Circulation Plus* (Follett), *Computer CAT* (Winnebago), and two Apple IIe computers with printers to the 10,000 book library, student involvement has skyrocketed.

Students take charge of the Black Bob Elementary library.

The new circulation system checks books in and out, keeps track of which user has which book, and prints overdue notices. The system is so easy to use, the third graders act as library aides!

A separate catalog system helps students learn key word and technical library skills as well as find books. Mary Eileen says she keeps the traditional card catalog "because this is a teaching library," but students prefer to use the computer system.

"Students are learning to be accurate and creative," says Mary Eileen. "They're motivated to spell correctly, and they use resource books instead of asking me." Converting the Black Bob library to computers took about three weeks and cost between $3,000 and $4,000—time and money well-spent, says Mary Eileen. "Using computers saves a lot of time, and it's a way for students to make better use of the library facilities."

–Mary-Lane Kamberg

KIDS WHO CAN'T GET ENOUGH

"I have so many inventions floating around in my mind," says Sean Fahey, "that I have to get up at 5 a.m. to let them out."

"We'd better worry about the lift problem on Stephen's Flying Bicycle," says Beverly Prewitt.

"We could make remote-controlled lunch boxes," suggests Robby Warfield, "with the motors and wheels from those little battery cars."

Sound like a support group for harried inventors? Try again. It's a meeting of the Second Grade Apple Computer Club at Worcester Country School in Berlin, Md. Margaret Rodgers, a second grade teacher, began the club—and its current focus on inventions—as a way of integrating classroom and extra-curricular activities.

The invention angle has boosted motivation for many of the subjects taught in second grade, Margaret reports. Students have written letters to people like Frank Perdue, suggesting ideas for a faster chicken plucker; they've also studied the history of invention and the lives of inventors like Benjamin Franklin and Thomas Edison in social studies. Students write word processing descriptions of their ideas on an Apple computer and design the inventions on a Macintosh.

"We don't have to stress thinking skills," says one school administrator. "The inventors just take off on their own. They research, plan, organize, and produce inventions."

One inventor noted that it was getting more and more crowded in the computer lab. A solution: "Maybe we can come to school on Saturdays."

ADVENTURES IN CREATIVE COMPUTING

Ninth graders at Salem Junior High in West Virginia recently crafted their own computer-video adventure simulations and learned creative writing skills, algebra, flowcharting, graphics, and computer literacy all at the same time!

To create their adventures, the students used a video camcorder to take pictures of drawings, maps, and items from home (like a candlestick that becomes a murder weapon in one adventure). Some students even dressed in costumes and took pictures of themselves and friends to be characters in the adventure!

Computer instructor Lana Sammons helped the students coordinate their simulations and connect the video camera to the VCR and Apple IIe computer. Lana used *ComputerEyes* by Digital Vision to integrate the video-generated pictures with *Simulation Construction Kit* by Hartley. The result? Creative, cross-curriculum learning that is fun to both make and watch!

KIDS LET LOOSE WITH CREATIONS OF THE FUTURE

A cruise for abused parents? RoboDoc? An Automatic Pooper Shooper? These are ideas dreamed up by students in Distict 10 in the Bronx, New York as part of a contest held during Computer Learning Month 1988.

Students were asked to create an ad for an original product using their favorite graphics program. They used *Dazzle Draw* (Broderbund), *Blazing Paddles* (Baudville), *Fantavision* (Broderbund), *SuperPrint* (Scholastic), and *Paintworks Plus* (Mediagenic).

Students in kindergarten through third grade used "clip art" graphics, while older students created their computer graphics free-hand. Participants from each level were honored at a special district awards ceremony.

SERIOUS FUNNY BUSINESS

Kids in Susan Yanchisin's first grade class at the Roxboro Elementary School in Syracuse, N.Y., take their "clowning around" very seriously. After reading a story about clowns, the children decided to use their computers to create their own clown calvacade.

Using *Mask Parade* (Springboard) and *Magic Slate* (Sunburst), the kids designed clown masks and wrote stories to accompany them. Some children wrote funny stories; others worte about life in the circus.

For Susan, it's all proof that kids and computers are a good combination. "I have been teaching word processing to my first graders for three years now," says Susan, "and they love it. They catch on so much faster than I ever expected they would."

—Jackie Glasthal

LEARNING CAN BE FUN!

Not many computer games are fun and teach something. So when Kathleen Doll, computer director at Horlick High School in Racine, Wisconsin, turned on *Maniac Mansion* (LucasFilm Games) for the first time, she instantly recognized its potential benefits for her special needs students.

***Maniac Mansion* is a game of logic involving lots of thinking and reading practice, without a lot of typing. Users try to rescue Sandi (a kidnapped woman) from Maniac Mansion. The game gives users a variety of command choices ("pick up key" or "walk through door," for instance) to make the action continue. The game gets harder, in spite of clues, as the user gets closer to rescuing Sandi.**

Kathleen notices that soon after she introduced the game to her students, they were addicted—she couldn't tear them away from the computer. "Without knowing it," says Kathleen, "my students were using the game to learn. Now, the more time they spend working on this game, the easier their other work has become."

SPECIAL ED. HAPPENINGS:
LEARNING CAN BE FUN AND STUDENT TO STUDENT

STUDENT TO STUDENT COLORING BOOKS

At the John H. West Elementary School in Bethpage, N.Y., learning disabled students in grades one through six use *Print Shop* (Broderbund) and *Magic Slate* (Sunburst Communications) to create coloring/story books for kindergarteners at the school. Their first release was a book about seasons; future plans include a book of numbers and an alphabet book.

Students are bow-wowed by their canine computer studies.

STUDENTS' BEST FRIEND

Teacher Janice Sork of Hillsboro, Ore., decided that teaching computer application skills to her W. L. Henry School students didn't have to be as "ruff" as it's been. So she introduced her students to the "AW Kennel Club" and a lesson on dogs.

Janice first designed task cards which would teach word processing, data base, and spreadsheet applications using *AppleWorks* (Claris). Next, she had each student pick a name of a dog to research, and pick up a set of task cards to complete. As students successfully completed all the task cards, they were rewarded with special certificates called "Petigree Papers," signifying their membership in "The Club for Pet-icular People."

ONCE UPON A TIME . . . A HONEY OF A TALE

"Goldilocks and the Three Bears" may be a classic honey of a story, but "Sam, the Safety Bear" and "The Slimy Stickybear Secret" will also have an impact on generations to come—at least they will at John Glenn Elementary School in Donahue, Iowa.

Using *Stickybear Printer* (Optimum), *KoalaPainter,* and a KoalaPad, students in Sharon Braunschweig's sixth grade classroom created bear stories for the younger children in the school. The stories, which feature Bradford (poppa), Sara (mother), and Bumper (baby) Bear, all contain lessons for the younger children to learn.

Twelve-year-old Colin Davis, for example, wrote "The Slimy Stickybear Secret" as a morality tale about telling the truth. In the story, Bumper lies to his mother about dragging mud into the house. When mom finds Bumper's dirty clothes, though, the baby bear is grounded for two months! The story ends with Bumper deciding never to tell another lie.

Parent volunteers helped the sixth graders edit their stories and create illustrations and book cover designs. After laminating and binding the pages of their storybooks, the sixth graders carried the books—along with three teddy bears—down the hall to the younger childrens' classrooms so that the kids could cuddle with the bears as they read.

—Jackie Glasthal

BE A REPORTER!

Come on, all you elementary and middle school educators! We know you're out there! What exciting computer project has your classroom or school been working on lately? We'd like to tell our readers about it in a future edition of "Classroom Happenings."

INSERVICE WORKSHOP

A Guide for Teachers Helping Teachers

BY CAROLYN FETNER AND KAY JOHNSON

Turning Teachers On to Technology

Editor's Note: *Are you the "computer expert" at your school, responsible for providing inservice training for your colleagues? This new column is designed to make your inservices as effective and enjoyable as possible. Each issue will provide tips for training teachers on a particular topic— from word processing to selecting software— plus a reproducible handout to accompany your training session. This first column contains a grab bag of general inservice strategies.*

At Gung Ho Elementary, teachers come to school at dawn to grab the best software, plan for daily classroom computer use with zest, share their ideas enthusiastically, and even beg, borrow, and/or steal an extra computer from time to time.

Meanwhile, at So So Elementary, computerphobia is rampant. Computers are found lurking in closets, and the "beasts" that do make it to the classroom are camouflaged with bulletin board paper.

What makes the difference? At Gung Ho Elementary, they know that teachers must be "turned on" to computers before the computers will be turned on. The secret of Gung Ho's success is that it has a "think tank" (made up of one representative from each grade level, a member of the administration, and the media specialist) to brainstorm all the best ways to turn teachers on. Here are some of their suggestions:

1. Frequent inservice! Provide inservice often, over a period of weeks or months, and don't burden teachers with too much knowledge at one time. Two-day crash courses can cause teachers to short circuit.

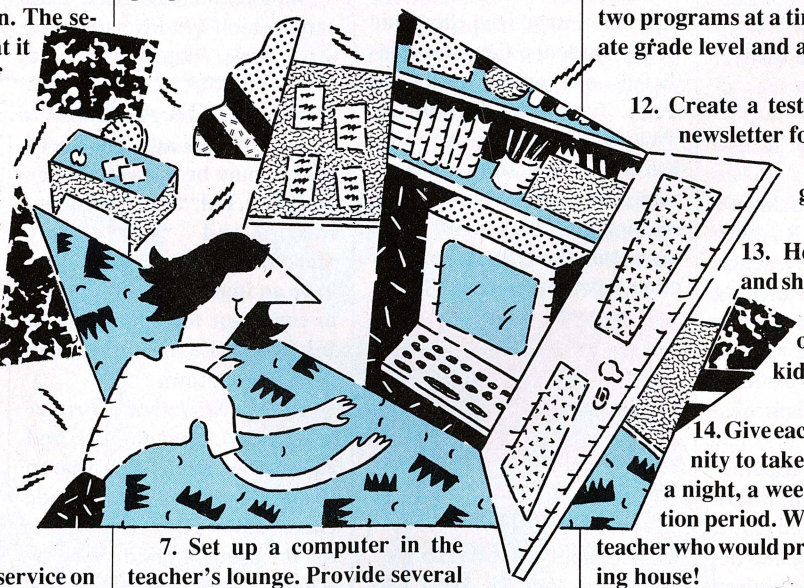
2. Free inservice! Provide inservice on site and on school release time. These inservices should ideally be provided by an in-house "expert"-- and each teacher must have access to a computer.

3. Rewards! Teachers who are willing to devote extra time to master the computer should receive some special "perks," such as first dibs on hardware or extra planning time.

4. Stimulate interest by presenting classroom management software. There's nothing like the idea of saving valuable prep time to intrigue overworked teachers!

5. Provide a software demonstration hour as often as possible before or after school. Teachers can come and go during this time. Most teachers are willing to give up ten minutes for a new idea for the classroom.

6. Each week, focus your computer hour on one particular area of study. Advertise software and technology integration strategies for social studies, science, math, language arts, and so on.



7. Set up a computer in the teacher's lounge. Provide several new pieces of software each day. You may be sure that if one teacher begins a program, others will participate.

8. Plan software sharing sessions. Have each teacher at a grade level share a favorite program and its curriculum with peers.

9. If you don't already have a computer committee representing all grade levels in your school, form one. Then share new software with them first. They are just the ones to help you key a software program into the curriculum and pass it along to other teachers at their respective grade levels.

10. How about a "Computer Madness Pizza Party"? Set up computers and software in a central location and invite teachers to stay several hours after school to view unfamiliar software or share a favorite. Pizza should be served the last half hour— when everyone is quite mad about computers OR just quite "mad"!

11. Use computer newsletters to spread the word of new software. Share just one or two programs at a time. Include appropriate grade level and application.

12. Create a testimony column in the newsletter for teachers to report on "awesome" programs they have used.

13. Help teachers develop and share effective strategies for making the most of a "one computer/30 kids" classroom design.

14. Give each teacher the opportunity to take a computer home for a night, a weekend, or over a vacation period. What a way to "hook" a teacher who would prefer anything to cleaning house!

15. The sky's the limit! One innovative school system committed to computer literate teachers has proposed funding to provide each teacher with a permanent home computer. (If you are interested in promoting this, check with Shoreham-Wading River School District in Shoreham, N. Y.)

Carolyn Fetner and Kay Johnson are Media Specialists at Dyer Elementary and Centerville Elementary, respectively, in Gwinnett County, Ga.

Jim Lambrenos

WHICH COMPUTER SWITCH TURNS YOU ON?

Q: Does student record keeping get you down?

A: *A **data base** will help you record, organize, select, and maintain records with the touch of a key!*

Q: Does averaging grades make you think of numbers instead of students?

A: *A good **gradebook program** can have those grades averaged in a matter of seconds!*

Q: Would you like to convert students into eager writers?

A: *Eliminate the pain of revision with **word processing:** a sure way to help your kids "key in" to creative writing.*

Q: Has learning those spelling words become a bore for your students?

A: *The computer can aid you in creating **word searches** and **crossword puzzles** with minimum effort for you and maximum learning for your students.*

Q: Do those math facts lurk over your students' heads?

A: *Provide a fun and easy way with **math courseware** designed for success!*

Q: Is ditto drudgery a part of your classroom?

A: *Create your own tailor-made handouts in a flash with **graphics software**!*

Q: Has the process of keeping parents informed become a necessary chore?

A: *Make it fun with **desktop publishing.** Your students can even help produce a classroom newsletter!*

WANT TO KNOW MORE?

Contact: _____

OUR NEXT COMPUTER SHARING SESSION

WHAT: _____

WHEN: _____

WHERE: _____

WELL-MANAGED CLASSROOM

Computer Solutions for Your Administrative Tasks

BY TOM ADAMS

All About Management Tools

Three weeks before the end of the school year, a seventh grade teacher I know went to the service station to have some minor work done on her car. Unnoticed, her gradebook slid down between the front seat and the door of her car. It wasn't until the next morning that she noticed that the gradebook was missing. After searching frantically everywhere, in vain, she finally did the only thing possible: she calculated the final grades for all 150 students from memory. (Two years later, during another service job, the gradebook popped out of its hiding place.)

This horrifying scenario will probably never happen to you. All of us, however, have at least temporarily misplaced a gradebook. It's a frustrating loss, because no one keeps duplicate gradebooks— at least, not of the handwritten kind.

Gradebooks are one tool of "classroom management." Classroom management is not teaching; rather, it is all of those support activities that make it possible for you to teach (see box on next page). Classroom management is the class rolls, seating charts, tests, gradebooks, equipment inventories, and other records or plans that let you do your main job—teaching.

Classroom management is also the one area in which computers unquestionably can make your work easier, faster, and more effective. For example, if our seventh grade teacher's gradebook had been kept on disk rather than on paper, she would have been able to make a backup copy on a second disk in a minute or two, and her year-end fiasco would have been avoided.

SOFTWARE TOOLS:
READY-MADE OR DO-IT-YOURSELF?

Look through the software catalogs and you'll find quite a number of programs under the heading "classroom management." If you had a very generous budget, you could assemble a library of commercial packages to handle any classroom management function you would ever encounter.

But you probably wouldn't want to do that. A great many classroom management functions are precisely the kinds of things you can do yourself with a standard word processing, data base, or spreadsheet program. With a clear idea of your own needs, you can create your own classroom management tools.

A specialized program that you purchase has the advantage of being ready to run. But there's a disadvantage, too: it has its own set of commands and directions which you must learn. A classroom management tool that you make yourself lets you use a utility program you're already familiar with. Also, it can be more closely tailored to your own specific needs.

CASE 1:
TEST-MAKING

Creating written tests is one of your most important and time-consuming classroom management tasks. Let's suppose you want to put together a 20-question, multiple-choice test on the American Revolution. If you prefer to use a specialized test-making program, you might consider a program like *Test Generator* by Gamco. *Test Generator* lets you enter up to 500 questions as a master base from which tests can be made. Once you've stored enough questions, you can make up a test by selecting questions or letting the program select questions randomly. You can even use different types of questions—fill-in and multiple choice, for example—in the same test. You can also add, edit, or delete questions at any time.

Alternatively, you can make the same test using a word processing program that you are already familiar with. To do so, you'll create three simple document files.

The first step is to make a test heading—spaces for students to enter their names, the date, and other identifying information. Since this heading is likely to be the same for any test you make, you should save it as a separate file called HEADING.

Next, create a second file of all the good questions you can think of from your unit on the American Revolution, making each question a separate paragraph. You could name this file QUESTIONS or something similar. Save it as a permanent file, and add questions to it at any time as you think of them.

Now make a separate new word processing file for the multiple-choice test itself. You might call this file TEST1; later tests made from the QUESTIONS file can be called TEST2, TEST3, and so on. Use your word processor's COPY function to put HEADING material at the top of this file.

Then go to the QUESTIONS file, select one of the questions you want, and use your word processing program's COPY function to copy this question onto TEST1. Keep moving back and forth between QUESTIONS and TEST1 until you have put on TEST1 the 20 questions that you want.

When you're satisfied with the content, print a copy of the test on paper, and look for any needed adjustments in the page setup (margins, spacing, and so on). After putting the finishing touches on your test, save it onto two different disks (one as a backup). You can then print it onto a ditto master, make photocopies, or actually print out a copy of the test for each student.

As you add questions and make more tests, you will eventually have in your QUESTIONS file a comprehensive collection of really superlative questions on the American Revolution, and a collection of ready-made tests. You'll also have the capability to make a new

CLASSROOM MANAGEMENT IS ONE AREA IN WHICH COMPUTERS CAN UNQUESTIONABLY MAKE YOUR WORK EASIER, FASTER, AND MORE EFFECTIVE.

test at any time with little effort.

CASE 2:
GRADE-KEEPING

Another vital management task is keeping your gradebook. Like tests, gradebooks can be made either with specialized gradebook software or with a utility program— in this case, a spreadsheet or a data base.

You can make a data base or spreadsheet file which has a category for student names, and additional categories for each assignment. You can use this file to average grades for individual students, and for a class. With a data base, you can include additional categories where you can enter your comments on each students' performance. It's very handy to have comments and grades in the same file.

There are some excellent electronic gradebooks which can do all of these things and much more. Many electronic gradebooks will let you weigh scores, so that one assignment may count twice as much as another. They will automatically convert letter grades into number grades.

One of the best of the ready-made electronic gradebooks is *Grade Busters 1/2/3,* from Grade Busters. Another is the *Kalamazoo Teacher's Record Book* from Hartley. The Kalamazoo program, in addition to basic calculations, readjusts the grade curves to include extra credit points and prints bar graphs and individual student reports or class summaries. And if you are really interested in statistics, it will automatically compute averages and standard deviations.

The question then is: how much do you need from an electronic gradebook? If you only want to record and average non-weighted grades, you will do just fine making your own. If you want more features, look into one of the commercial gradebooks.

Either way, you will save both time and energy. In fact, once you've worked with your first electronic management tool, you are likely to realize just how much time you spend in classroom management. An electronic tool that makes management easier— whether you purchase it or make it yourself— is bound to make your teaching more productive.

Tom Adams is the computer teacher for the Princeton Regional Schools in Princeton, NJ.

40 CLASSROOM MANAGEMENT NEEDS

You can find specialized software that will fulfill all of these needs for you. But you can also do most of these jobs yourself with a word processing, data base, spreadsheet, or graphics/printing program. Pick out the three or four management functions that are most important to you, and concentrate on using your computer for these functions first.

1. Multiple choice tests
2. Short answer essay tests
3. True-false tests
4. Word matching tests
5. Tests with mixed question types
6. Study sheets
7. Lessons
8. Drill sequences
9. Tutorials
10. Grade record
11. Assignment record
12. Attendance report
13. Record of teacher comments
14. Numerical grades calculated from letter grades
15. Final grades calculated from weighted scores
16. Class median, mean, standard deviation
17. Grade distribution for every assignment
18. Seating charts
19. Curved test scores
20. Item analysis of test questions
21. Histogram of test scores
22. Test question histories
23. Reports to parents
24. Customized letters
25. Personalized awards
26. Bookmarks
27. Invitations
28. Permission slips
29. Posters
30. Certificates
31. Word-search puzzles
32. Crossword puzzles
33. Mazes
34. Pie charts
35. Bar charts
36. Line charts
37. Scrambled words
38. School calendar
39. Flexible planning calendar
40. Name tags

Five Year Old Writes Life Story.

This story has many happy endings.

That's because five year olds are writing all kinds of stories in classrooms where teachers are teaching with IBM Language Arts Courseware.

IBM courseware developed with teachers for teachers

It all starts with IBM's acclaimed Writing to Read program*. It's a self-paced, interactive program that teaches kindergartners and first graders how to write anything they can say and read anything they can write.

And once students learn to write, IBM's Primary Editor Plus program gives them a simple and fun way to actually learn the fundamentals of word processing. So the skills your students use to write and edit their own life stories at five, will be with them at 25.

Writing to Read and Primary Editor Plus are just two of the many high-quality programs that run on the IBM PS/2 Model 25 desktop computer.

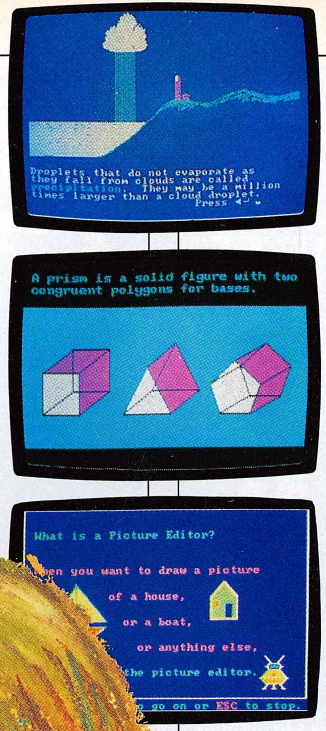
The Model 25 combines the power, speed and graphics capabilities of the IBM Personal System/2 family in a compact classroom desktop unit. Combined with our courseware, it puts a complete library of flexible teaching tools at your fingertips.

Thousands of schools are teaching English, math, physics, chemistry, foreign languages and much more on IBM PS/2s with IBM Educational Courseware.

And with good reason.

*Developed by Dr. John H. Martin

Our courseware has been developed with the help of over 200 active teachers nationwide. IBM makes courseware programs for students from kindergarten through high school —courseware that complements your curriculum and the textbooks you're currently using.



But courseware isn't the only way IBM is bringing subjects to life. IBM LinkWay, for example, is a new, fun-to-use interactive multimedia tool that actually combines full-motion video with sound, text and color graphics. With it, teachers can create their own special multimedia shows that work with their curricula.

And there's so much more we're working on to help you teach. Together we can help students watch atoms collide, listen to Shakespeare, master geometry with the ancient Egyptians— or help a five year old write his own life story.

For a free catalogue and/or classroom poster, or for further information, call:

1 800 IBM-7257, ext. 152

or write:

IBM Corporation
P.O. Box 3900
Peoria, Il 61614

IBM is a registered trademark. Writing to Read, Primary Editor Plus, PS/2 Model 25 and LinkWay are trademarks of IBM Corporation.
© 1989 IBM Corporation.

IBM®

Looking INTO THE 1990s

A PIONEER IN CLASSROOM COMPUTING REFLECTS ON WHAT'S HERE AND WHAT'S AHEAD FOR TECHNOLOGY-USING TEACHERS.

•AT A GLANCE•

WHERE WE'VE BEEN AND WHAT WE'VE LEARNED

- The teacher's key role
- The importance of planning
- The question of readiness
- The myths we've outgrown

WHAT'S AHEAD AND HOW WE'LL GET THERE

- Mix & match technology
- New roles for teachers
- Renewed innovations
- Flexibility & diversity
- Access, support, & training
- Creative new curricula
- The road to tomorrow

GUIDES TO THE FUTURE ... GLOSSARY FOR THE 1990s

With this school year comes a turning point: the end of the beginning of educational computing, and the dawn of a whole new era.

Those of us who have been teaching with computers for the duration have seen a lot of changes, and not all of them have been technological. Sure, the hardware and software have gotten flashier, more flexible, and lots easier to use. But the more important changes have come in how teachers have looked at computers: from a subject to teach about, to engaging electronic workbooks, to tools for enhancing the existing curriculum, to aids in creating a whole new pedagogy for the next century.

Over the past year, discussions about technology in the classroom have begun to dovetail with national debates about education and the teaching profession in general. A consensus seems to be growing around these key points: that citizens of the 21st century will need different kinds of skills than our schools currently provide, that teachers of the 21st century will fulfill different roles than they currently do, and that technology has a part to play in both of these transformations. (See the box called "Guides to the 1990s" on the next page for a list of reports on these topics.)

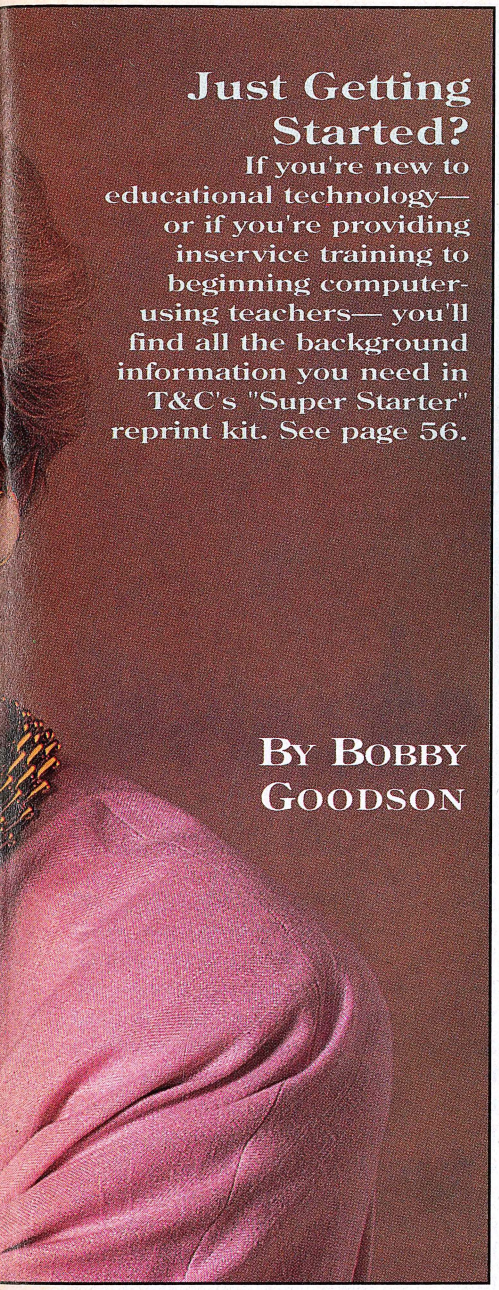
Whether you're a veteran computer-using teacher or are just beginning to work with technology, you will be uniquely well-equipped to thrive through all of the changes that the next decade brings. Before we peek into the 1990s and beyond, however, let's look back on the lessons of educational computing's brief history.

WHERE WE'VE BEEN AND WHAT WE'VE LEARNED

Although we have all arrived at our own place with technology, there are startling similarities in the paths taken by otherwise diverse schools, districts, or groups of teachers. It does not seem to matter whether they started with the first microcomputers in the late 1970s, jumped on the bandwagon in the 1980s, or are just getting started now, on the cusp of the 1990s (and there are many who are at that point!).

THE TEACHER'S KEY ROLE

Most often, the first computer entered the elementary school of the 1980s with a curious, imaginative teacher who was



Just Getting Started?

If you're new to educational technology— or if you're providing inservice training to beginning computer-using teachers— you'll find all the background information you need in T&C's "Super Starter" reprint kit. See page 56.

BY BOBBY GOODSON

ready to try out some new ideas with equally curious students! That teacher was one who "learned computers" with a book or a friend, through trial and error and all-nighters. In the end, that teacher became the mentor, the guide for the rest of the school. Even in cases where computers came into the school on the tide of a grant, a gift, or a master plan, someone in the school had to accept the role of guide and mentor— if the technology was to be used successfully, once the initial excitement wore off.

The 1980s also taught us, however, that technology implementations that work do not remain identified with just one teacher, however enthusiastic. Success is insured when there is a sense of ownership, pride, and involvement by the larger group of colleagues within any school setting.

THE IMPORTANCE OF PLANNING

Another hallmark of successful technology programs has been the existence of special kind of plan — a plan that starts with a sincere vision of what is needed, rather than just what is perceived as possible. A successful plan may start small but eventually broadens out to involve all students, all departments, and multiple applications. As the National Education Association report on educational technology (see box below) concludes, "a plan must focus on the individual educational needs of students and how educators meet those needs rather than on the technology" as an end in itself.

THE QUESTION OF READINESS

The OTA report, *Power On!* (see box below) refers to information technology as the "catalyst for change." Almost always, the use of technology in our profession starts new ideas flowing: new ways to present information, to challenge or to encourage students, to streamline time-consuming tasks. We've seen clearly, however, that technology alone cannot produce change. There really seems to be a point of "readiness" for each of us— a particular state of mind. When teachers are ready to learn something completely new, they are ready to start along their own path toward use of technology in their teaching.

Once they reach this point of readiness, teachers are often surprised to discover that they already have most of the skills they need to use technology. They know how to type, so the keyboard is no problem. They are used to teacher's manuals and, once they master the language, the computer manuals aren't much worse. Teachers are used to putting ideas on the blackboard or the overhead projector, so putting ideas on the screen is not that different. Very quickly, these days, technology-ready teachers find themselves "up to speed" with computers.

THE MYTHS WE'VE OUTGROWN

There was a collection of "myths" about technology that arose in the 1980s— things that we may have believed at one time but are happy to leave by the wayside as we progress toward the 1990s. We no longer fear that computers will replace teachers. We no longer feel that everyone must learn BASIC, or for that matter even learn to program. We no longer think that teachers will write all of the necessary software (but we do have new hypermedia tools to make it easier for those who do want to develop their own material). We no longer expect a school or a district to select one type of hardware and stick to that choice forever, for everything. We no longer assume that there is one best way to implement a technology program in every school, just as there is no best way to teach every student. Most importantly, we no longer see inservice technology training as something we can "finish," because we know now that for every possibility we explore, two more wait just over the horizon.

WHAT'S AHEAD AND HOW WE'LL GET THERE

If we accept the fact of change and realize that change will occur at different rates and at different times in every school and district. . . if we work toward what we think is needed and not get "hung-up" on what we see as merely possible. . .what might our classrooms be like in the 1990s?

MIX AND MATCH TECHNOLOGY

All three of our key reports speak of a convergence of existing technologies:

GUIDES TO THE FUTURE

Reports about teachers and technology.

Power On! New Tools for Teaching and Learning (September 1988). An exhaustive study of educational technology in the United States today, with thoughtful recommendations for correcting gaps and redressing inequities. U.S. Congress, Office of Technology Assessment, OTA-SET-379, Washington, D.C. 20402-9325.

Report of the National Education Association's Special Committee on Educational Technology (August 1989). Reviews the status of technology in the public schools and offers recommendations for building on the teacher's central role in successful use of technology. NEA Communications, 1201 16th St. NW, Washington, D.C. 20036.

Images of Potential (Spring 1989). The first product of the National Foundation for the Improvement of Education's "Learning Tomorrow" initiative, this report contains imaginative scenarios brainstormed by groups of forward-looking educators. NFIE Publications, P.O. Box 509, West Haven, CT 06516; Stock No. A701-00355.

Jeanne Strongin

computers, fascimile machines, hypermedia, multimedia, interactive video, telecommunications, voice synthesis, microwaves, satellites (see "Glossary for the 1990s" on page at right). Students will have access to technology for exploration, expression, and reinforcement. Teachers will have access for lesson development, record-keeping, and communications. Classrooms of varying sizes and configurations will be equipped with technology for presentation and investigation. Libraries will become information centers with access to all types of media and with connections to a world of knowledge beyond their four walls.

This array of tools is not so far removed from what is available today. With the continuing development of versatile hardware and software, we're already beginning to mix and match the pieces to suit our individual teaching styles, the demands of the subject at hand, and the specific needs of each student.

NEW ROLES FOR TEACHERS

The NEA report describes one of our future options as a "value added model" where technology is used to "enrich human capital," to expand the ability to process information, to allow modeling and creativity, to free the imagination to enhance (rather than merely streamline) the learning process. All this means a change in the role of the teacher. Most technology-using teachers are finding themselves becoming co-explorers with their students, guides to the learning processes, rather than the sole deliverers of knowledge and instruction. For most, this is an exciting and rewarding transition. However, that new role seems to be too often restricted by the existing structure of schools and classrooms, so we need to look at eliminating requirements that restrict the freedom to explore and learn in the new environment (see "Flexibility and Diversity," below).

TECHNOLOGY-USING TEACHERS ARE BECOMING "CO-EXPLORERS" WITH THEIR STUDENTS

RENEWED INNOVATIONS

Many of the educational innovations of the past have "withered on the vine"—not because they were not valid but because, at the time they were introduced, they were not practical for the average classroom teacher to implement. If we review some of those ideas, we may find several "old friends" to bring along into the technology-aided 1990s. For example, with the ability of the computer to manage information, the individualization of instruction becomes not only possible but practical and desirable. With the changing roles for teachers, there needs to be a fresh look at differentiated staffing. The availability of a broad selection of resources through telecommunications makes true discovery learning possible, even in remote sites, and breathes new life into the ideal of socially relevant, crosscultural instruction. The multimedia aspect of technology fits naturally with a "learning modalities" approach and interdisciplinary connections. And the ability of students to create tangible, polished output—from word processed stories to multimedia presentations—opens new vistas of "hands-on" mastery and self-esteem.

FLEXIBILITY AND DIVERSITY

To really work, the technology-enriched classroom of the 1990s must empower the student and the teacher to learn and to explore in many directions. What we really want is a learning-centered classroom, where the teacher is free to use whatever material and method is most appropriate to the student and the subject matter at hand. We are looking for a technology-assisted classroom that allows for flexible groupings of students and for a teaching staff of wide ranging skills, working most often in their own areas of expertise. To realize these goals, we must be free of some of the current restrictions— of grade level, of sequence of skills, of time, and of resources. The NEA report makes its strongest recommendations for the decentralization of the learning environment and the individualization of objectives for each learner.

ACCESS, SUPPORT, AND TRAINING

In the school we envision for the 1990s, teachers have adequate access to technology— to do their own work and to meet each student's needs in the most effective and efficient way. At the very minimum, each teacher will have a computer on his or her own desk. Teachers will have adequate and on-going training to use the equipment they have and, more importantly, to develop the ability to match the technology to the curriculum and create a diverse and exciting peda-

gogy where technology becomes a partner, not a subject. Teachers will be encouraged to take instructional risks, to share information with each other, and to constantly inventory their own professional development needs and goals.

CREATIVE NEW CURRICULA

The curriculum for our 1990s classroom will be determined, not by tradition, but by a careful investigation of the needs of a citizen in the 1990s. In *Images of Potential*, for example, the imagined curriculum of the future contains many of traditional subjects (as well as such "new" skills as critical thinking and collaboration) presented and combined in new ways, using a variety of methods. The end result— mastery of well-defined, predetermined objectives and skills— may be the same, but the roads to mastery may be very diverse.

The classroom of the 1990s, then, will foster a lifelong love of learning — for teachers and students alike. It teaches skills more often than facts: for example, writing skills more than word processing; problem solving, not just multiplication tables; and research skills with access to the world's greatest libraries. It will present diverse options and acknowledge individual differences. All learners will be accepted where they are in their own development and guided toward the acquisition of the skills they need.

THE ROAD TO TOMORROW

Although many of the elements of this imagined future are currently within our grasp, our 1990s school is not a 1980s school with fresh paint. It is restructured to take advantage of the best we know now. It is, to quote the NEA report, "a restructured school environment, not piecemeal appendages grafted onto the current school structure and curriculum."

We know this school will not materialize on January 1, 1990, but with a plan that charts the direction in which we want to go, it will take shape in the years to come. If our foundation is solid and our vision is clear, it will happen more quickly than we dare hope. With the help of state and national policy makers, with district and school administration and staff working together with their communities, this school of the 1990s can become a reality in any community.

Bobby Goodson **was a pioneering computer-using teacher in the Cupertino, California, public schools, and a founding advisor of *Teaching and Computers*. Today her Sunnyvale, California-based firm, Bobby Goodson and Associates, assists teachers and schools in making the best use of technology.**

GLOSSARY FOR THE 1990s

Key technology terms and tools, adapted from *Images of Potential*.

Camcorder: Combination of camera and recorder. Contains the video camera and recorder all in one unit.

Compact disc: Generally refers to five-inch discs (CD-ROM) that are read by laser beam. Most people are familiar with digitally recorded audio CDs. Similar discs are also used in CD-ROM drives for computers, and can hold a great deal of information.

Computer synthetic voice translation: Refers to the technology of converting text into artificial speech using a computer. Also known as voice synthesis.

Desktop publishing: The capability of using computers and laser printers to combine text and graphics into publication-quality documents.

Electronic mail: Sending and receiving messages over telephone lines.

Fax (facsimile) machine: Scans a document (text or graphics), converts it into code, sends it through the telephone line to a machine at another location which decodes the digitized message and converts it back into its original form.

Fiber optics: A bundle of many glass fibers that transports light across the length of the fibers. Computer data and phone conversations can both be carried through these fibers.

Hologram: A thin, flat piece of glass or film through which can be viewed a three-dimensional projected image.

Interactive videodisc: A combination program using a computer and videodisc player, which allows the user to interact with the events occurring on the screen. The user can stop the video, search for other information and pictures, and create his or her own "path" through the material.

Laserdisc or videodisc: The 12-inch discs which are read by laser on a videodisc player. Each side of these large discs may hold 54,000 frames of information in the form of still pictures, text, graphics, or full motion video/film segments.

Microwave: The extremely high frequency wavelength which the major television networks use to transmit their programs. The transmissions are broadcast to satellites which amplify and retransmit the signal to many other locations, which receive with their own satellite dish. Cellular phones and all kinds of radar equipment also use microwaves.

Modem: A "computer telephone" which converts information generated on a computer into tones that can be transmitted over telephone lines.

Multimedia: The use of more than one technology to develop a presentation, lesson, or production. Possible combinations include computer with text and animation, videodisc player, CD-ROM player, synthesizer, and so on.

Overhead projection panel: Connected to a computer and placed on an overhead projector, this device allows a computer user to display "live data" on a large film screen.

Robotics: The technology related to machines that can be programmed to do physical tasks or activities, such as manipulating materials, tools, and special devices.

Scanner: A machine which can "read" the dark and light images of a document (text or graphics), and convert them into digitized information which can be seen and used on a computer.

VCR: Video cassette recorder, allows users to record and play videotapes on a television screen.

Voice recognition unit: A device which is programmed to recognize and respond to commands spoken by a person.

Kids can work better when they're glued to the screen.

As every high school teacher knows, prying students away from the Carringtons and the Keatons long enough to teach them about the Roosevelts and the Brontes is not exactly an easy task.

But more and more teachers are doing just that. By turning to the compelling screen of a Macintosh® personal computer.

Now, you probably know that the graphic, intuitive Macintosh way of working is easy to learn. That is, unlike with most other computers, students can use Macintosh without learning a foreign language. So they can get straight to work on things like English.

But what really grabs their attention is that, with Macintosh, kids actually enjoy learning.

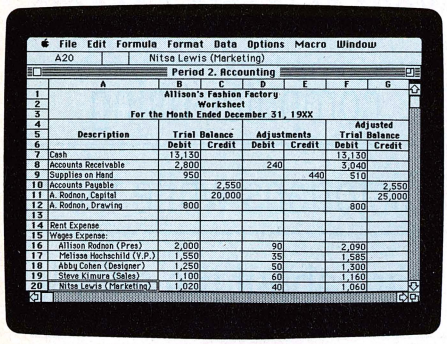
© 1989 Apple Computer, Inc. Apple, the Apple logo, Macintosh, HyperCard, AppleShare and LaserWriter are registered trademarks of Apple Computer, Inc. 'The power to be your best' is a trademark of Apple Computer, Inc.

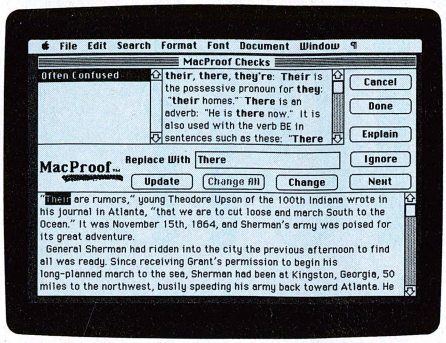
A PROGRAM FOR ANY TIME SLOT.

From first-period journalism to sixth-period drafting, Macintosh helps teachers teach and kids master almost anything. For example, Macintosh can make editing term papers, newspaper articles and reports nearly as easy as zapping commercials. And when fine-tuning is so much simpler, writing assignments come in much better.

For business education, kids can learn to analyze financial problems with spreadsheets like Microsoft Excel. The same kind they'll be using after graduation.

And auto shop teachers can illustrate concepts in three dimensions. So their students can do things like tear down an engine without getting their hands dirty.





Programs like Microsoft Excel, MacWrite and MacProof give kids the incentive to fine-tune everything they do. And all their work comes in much better.

Meanwhile, the HyperCard® software that comes with every Macintosh lets teachers and students create their own courseware and presentations. Combining pictures, voice, sound and even video for engaging lessons in literature, history, physics or math. After all, when it comes to holding a kid's attention, the more media, the better.

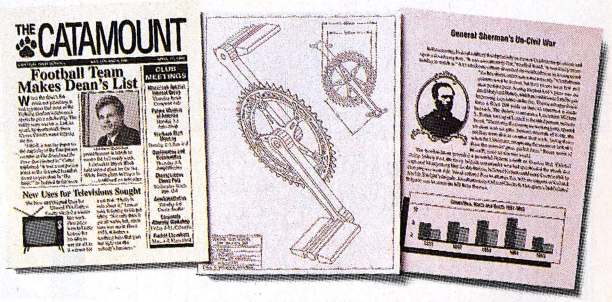
UP NEXT, NETWORK NEWS.

With the AppleShare® file server, your Macintosh computers can work together. To make sharing ideas as easy as pointing and clicking. AppleShare also works with your Apple® II and MS-DOS computers. So you can get even more out of the computers you've already invested in.

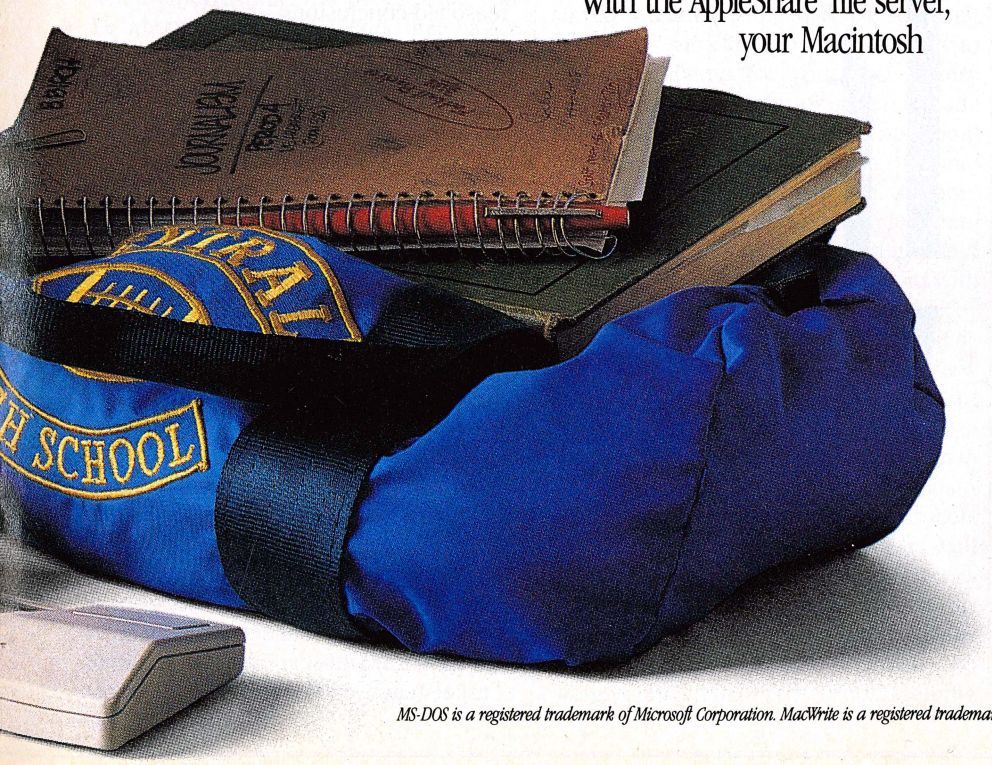
THE BIGGEST PICTURE.

Obviously, students who pay attention are more likely to get into college. Better still, once they get there, they'll already be ahead. Because Macintosh is a computing standard in colleges across the country (Stanford, MIT, Dartmouth and the University of Illinois, to name a few).

And whether it's with a high school diploma or a college degree,



What any kid prints with a LaserWriter® looks like the work of a professional producer.



when students start pounding the pavement, they won't find the streets so hard. Because Macintosh is found in businesses everywhere, from fire departments to multinational corporations.

All of which means that Macintosh and teachers can work together toward a common goal.

To give kids capabilities that will stick with them forever.

The power to be your best.™

MS-DOS is a registered trademark of Microsoft Corporation. MacWrite is a registered trademark of Claris Corporation. MacProof is a trademark of Lexpertise, Inc.

BY CAROL EDWARDS AND LOUISE C. ORLANDO

EASY TECH

CONTENTS

SCRAPBOOK 25
DATA BASE 27
ESL STUDENTS 26
SPECIAL NEEDS LEARNERS 29
GLOSSARY 28

CURRICULUM CONNECTIONS

SOCIAL STUDIES

• • • •

Understanding how history is written

Learning about the community

LANGUAGE ARTS

• • • •

Interviewing and reporting

Organizing narratives

CRITICAL THINKING

• • • • •

Sequencing data

Making inferences

Drawing reasoned conclusions

Distinguishing fact from opinion

ORAL HISTORY: Tell It Like It Was!

Your students become computer-using historians while they learn about the people in their community.

Did you ever sit down and listen to your grandmother's stories? Or to the tale your neighbor tells about how he came to America? If so, you were collecting oral histories!

Oral history is a way of making history more relevant to students while providing them with an opportunity to get to know the people in their community. Your students will leave this two-part word processing and data base project with a greater understanding of history. They will also learn how to organize and sequence data, distinguish fact from opinion, make inferences, and draw reasoned conclusions.

MATERIALS NEEDED

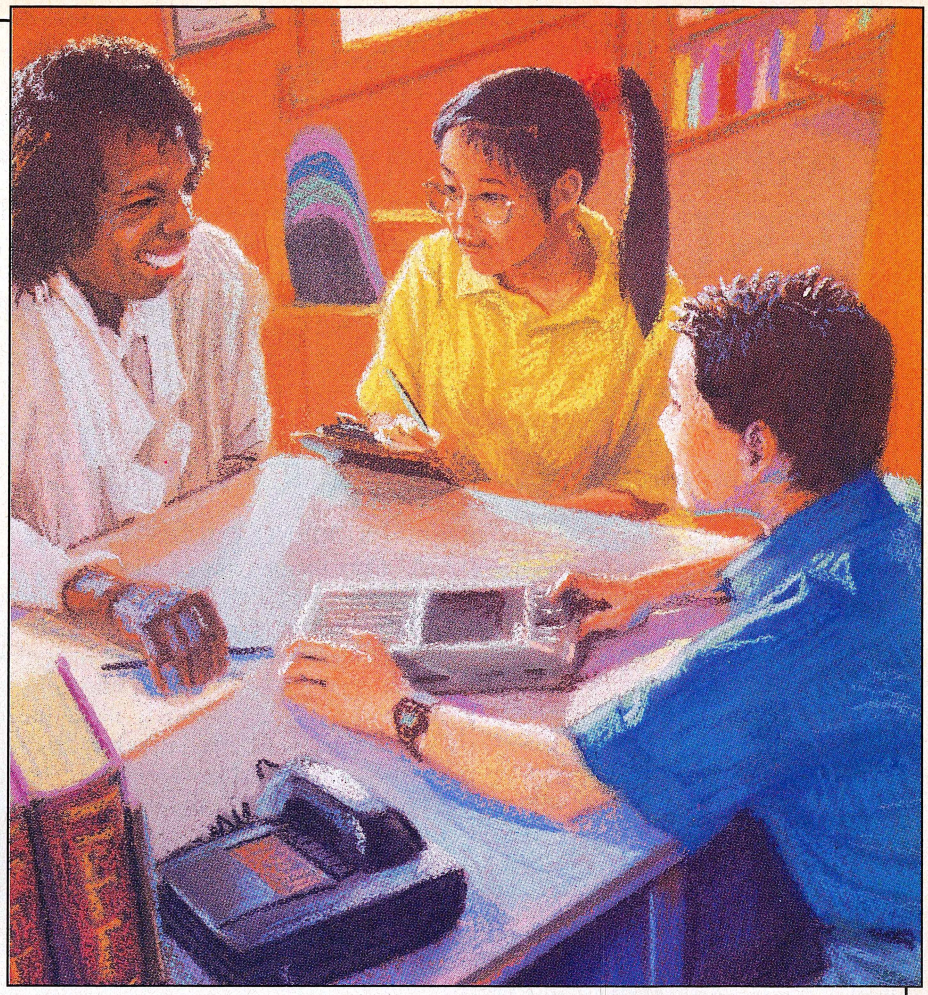
To complete this project, you will need a word processor and data base program with which you and your students feel comfortable. You will also need a printer, several tape recorders, a camera, film, and a scrapbook. You might also want to round up one or more students or adult volunteer typists to help transcribe the tape recorded interviews to data disks.

INTRODUCING THE UNIT

Begin by talking with your students about the purposes and techniques of oral history. If there is an expert oral historian or anthropologist at a local university, historical society, or library, invite him or her to speak to your class. You might also find some examples of oral histories to share with your students. The *Foxfire* books and any of several books by Studs Turkel (such as *Working* or *American*

Robert Kieth Phillips

Students gather oral histories by talking to people in your community about events in their lives.



Dreams: Lost and Found) are readily available models.

Explain to students that people have always told stories about their lives. It has not been until the twentieth century, however, that this form of history has been accepted by scholars as an important tool in recorded history. Oral history is now being used as a a non-traditional, non-biased way to explore the history of many groups (including minorities and women) who may have been excluded by conventional methods.

Tell your students that they can gather oral histories by talking to people in your community about events in their lives. The memories that these people share can be about significant events that had a wide-ranging effect on a community, or they may be personal recollections that help define what life was like at the time.

Explain to students that the best way to collect oral histories is to interview as many people as possible—using a tape recorder. The historian-interviewers should ask a wide assortment of questions, and be open to "reasonable" tangents because they might prove to be very interesting. Once the interview process is complete, the interviewers transcribe the tapes and edit the transcripts to highlight the most useful and informative parts.

PART ONE: ORAL HISTORY SCRAPBOOK

Follow these eight steps to help your students create a word processing "scrapbook" of local oral histories.

STEP ONE

CHOOSING YOUR SUBJECTS

To streamline the task of selecting interview subjects, you might want to choose a theme for your oral history project. One example for a theme is the Great Depression: your students could find people who lived through this time and ask them what it was like. Another idea is to focus on a specific ethnic group, interviewing members of that group about their contributions to and interactions with the larger community.

No matter what your focus is, it is important to choose a variety of interview subjects—people whose different perspectives are likely to add up to a balanced overall picture. For example, in an oral history of your local African-American community, your subjects would include prominent people as well as "everyday" citizens, working class as well as professional people, women as well as men, people who came of age during the 1940s as well as those who were young adults in the 1960s. Helping your class develop these selection criteria is an important instructional aspect of this project. When it comes time to choose specific people to interview, you might steer your students toward interviewees you or other faculty members know personally, or to local groups that might be willing to volunteer their services.

STEP TWO

ARRANGING THE INTERVIEWS

Next, help your students to contact the selected subjects and make interview arrangements.

Although you will probably want your students to conduct most of the interviews in your classroom, you may want to arrange for some of them to take place in the subject's home or office. "Field trips" like this can inspire students to see different aspects of the topic and ask a wider variety of questions.

Students might want to make these initial arrangements with interview subjects by phone, then confirm them in writing. Also, think about providing the

USING THIS PROJECT WITH ESL STUDENTS

This project offers unique opportunities for ESL (English as a Second Language) classrooms in which students are learning to speak and read in English. This project can help students develop a positive attitude about their culture and experiences while getting to know more about each other.

You might have your ESL student-historians focus their oral history project on immigration to America. Their questions could include: When did the interviewee come to America, and why? What mode of transportation did their interviewee use to arrive in the U.S.? What does the interviewee like most and least about America?

Once your students have completed interviews, show them how to write an outline with the information. Tell your students to note any similarities or differences in the lifestyles of their subjects now, compared with their subjects' lives in their home country. Next, enter the information in the outline into the data base. Now students can compare and contrast information about their interviewees—and talk about similarities and differences in their own experiences!

— Louise C. Orlando

subjects with written interview guidelines, such as an idea of the interview time limit and suggestions for communicating at a level appropriate to the student audience. You might want to include a sample of questions the students plan to ask. Finally, subjects should be encouraged to interweave personal stories that would enrich the interview.

STEP THREE

PREPPING YOUR STUDENTS

Once the interviews are lined up, divide students into small groups and assign each group a person to interview. Have each member of your student interview teams prepare a list of ten questions in advance. Students will have more questions once the interview begins. Questions should be fairly general, and relate to the overall focus of the project.

Prior to the interviews, have one or more discussions with your students about interviewing techniques. If possible, consult with people you know who frequently conduct interviews, and ask them for tips you can relay to your students.

Demonstrate for students the proper way of asking questions and getting the subject back on track if he or she digresses. Also, students should be instructed on ways to take notes so they don't ask the same question twice, unless they didn't understand the answer the first time. Allow students to conduct practice interviews. They might want to interview their friends or their teachers.

Next, help your students sharpen the critical thinking skills they'll need in conducting and analyzing the interviews (see box on page 28).

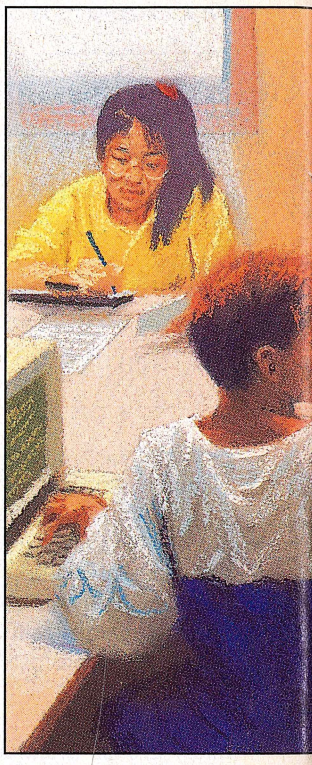
STEP FOUR

CONDUCTING THE INTERVIEWS

As teacher during the interviews, your role is to insure that everything moves along as planned.

While all interviews should be tape recorded, you may assign some students to take notes during the interviews as well. Later they can compare their notes to the transcripts. Don't forget to test your tape recorders before each interview. If possible, borrow your school's camera or bring in your own to get pictures of your student-historians "in action."

The best way for students to begin an interview is with a warm welcome and a brief explanation of why the interview is taking place. If the subject has a hard time getting started, suggest that students ask some general questions to put him or her at ease. Students should then move to their prepared questions.



After the interview, students should thank the interviewees for participating. Students should ask them whether they may contact them later, if necessary, to clarify information.

STEP FIVE

TRANSCRIBING THE INTERVIEWS

As each recorded interview is completed, it should be transcribed. Anyone who can type quickly will be good at transcribing, so you might want to ask parents or older students to help. To make the job easier, give the transcribers a list of the questions that were asked. This way, a lot of the extraneous material can be left out along with any repetitive questions. Finally, you may want to listen to the tape as you read the transcript to make sure that no important material was omitted. When the transcripts are complete, print them out for students to read.

STEP SIX

EDITING THE TRANSCRIPTS

Once your students read the transcripts,

STUDENTS LEARN THAT, IN ORAL HISTORY, REVIEW AND VERIFICATION ARE JUST AS IMPORTANT AS COLLECTION.

have them use the information to write an outline of each interview. This outline should include the questions they asked with a brief two-line description of the subject's answer. When the outline is finished, assign students to reorganize the transcript text on the computer. Explain to them that the most important and relevant information should appear first, information a little less important appears next, and so on.

When all of its interview material is organized, each team of students will need to write introductions, transitions, and explanatory text to hold the directly-quoted pieces together. This text is known as the "narrative."

STEP SEVEN

VERIFYING AND FACT-CHECKING

You will want students to understand that in good oral history taking, review and verification are just as important as collection. Once each team has completed its interview/narrative section, have a different set of students—the reviewers—proofread it for grammar, spelling, and punctuation errors. The reviewers should also compare the factual information in a completed narrative with the transcript to make sure facts are accurate and complete. As they discover points that they think are questionable, they can discuss them in class. If you find that their questions are not being resolved, tell them that they can call the interviewee to double check the information.

Once the review process is completed, have the entire class discuss the draft sections, and how they changed after review. Some astute students may notice, for example, that some interviews contradict others. Reassure them that this is okay, because not all people experience things the same way.

STEP EIGHT

BRINGING IT ALL TOGETHER

Once the individual interview/narrative sections are finished, you and your students can decide whether you would like to combine them as one continuous "story" or have each appear as an individual chapter in your oral history scrapbook. Either way, students will need to decide whether they will use chronological, alphabetical, or topical order to arrange the sections.

When you've finalized the order, add student artwork and photographs of the interviewees and the students. If you have access to a desktop publishing program, use it to combine the word processing text with graphics. Ask your students to collaborate on creating a cover design. Print out a clean final version of the scrapbook, and make enough photocopies to give to the students and the interviewees.

PART TWO: ORAL HISTORY DATA BASE

The first part of this project concentrated on gathering information and using it in a word processing activity. This part of the project lets students explore the relationships between people and events with greater depth by creating a data base from the oral histories.

STEP ONE

PREPARING THE DATA BASE

Have your students review each oral history transcript for shared data. Once they do this, they should develop some

CRITICAL THINKING & ORAL HISTORY

An oral history project provides good practice in critical thinking. Whether they're formulating probing questions, attempting to reconcile contradictory "facts" about a certain historical event, or struggling to bring order to the mass of interview material, students will be exercising their skills in:

Association: *To form mental connections between facts, ideas, or images.*

Classification: *To categorize objects or ideas based on established criteria, as when sorting a button collection by size and color.*

Deduction: *To infer a particular conclusion from a general or universal premise (as in "The weather is cold in winter; February is a winter month; therefore, our Valentine's Day beach party could be a chilling experience").*

Induction: *To infer a general conclusion from one or more particular instances (as in, "I got sick on Saturday; I ate onions on Saturday; therefore, onions make me sick").*

Inference: *To arrive at a conclusion through reasoning from evidence.*

Sequencing: *To arrange objects or ideas in a particular order based on their relationships to each other. Types of sequencing include hierarchical (from most important to least important), numerical, and alphabetical.*

Detecting Bias: *To determine if an idea is based on prejudice about race, sex, class, ethnicity, religion, age, and so on.*

Distinguishing Fact from Opinion: *To tell the difference between statements that are objective and can be proven, and those that are subjective and cannot be proven.*

Judging Credibility: *To determine whether an assertion is believable by way of supporting evidence, authority of source, and so on.*

Judging the Relevance of Information: *To determine whether information is applicable to solving the problem or making the decision at hand.*

Problem Solving: *To apply systematic steps to a problem, including: 1) defining the problem; 2) generating alternative solutions; 3) choosing the best alternative; 4) testing the selected solution; 5) modifying the solution as needed.*

questions to answer through a data base. Encourage students to begin their questions with "how many" or "which of the interviewees."

By deciding what facts will be useful in testing their hypotheses, and categorizing the information in the transcripts, they can develop field names for their data base. Examples of some field names are: NAME, OCCUPATION, MAJOR EVENTS INFLUENCING LIFE, and GREATEST CONTRIBUTION TO COMMUNITY.

STEP TWO

ENTERING THE DATA

Once the categories are finalized, set up a computer data file to match. From there, data can be entered from the transcripts by you, your students, parent volunteers, or a combination of all three.

- An advantage of teacher record entry is that you can more easily synthesize entries to include the maximum amount of information within the number of characters per entry permitted by the data base software. This will insure that the data base can handle the most interesting inferential questions and test hypotheses.
- An advantage of student data entry is that it offers students the direct opportunity to make inferences from the information in the oral history transcripts. You can "double" this effect if you have one pair enter each record and a different pair verify it.
- Another method for data entry is to print a blank record that only lists the field names. Students use this worksheet to hand write the data for each record. After another pair of students has verified the record, it can be collected along with the others, and entered into the computer data file by an adult volunteer.

STEP THREE

USING THE DATA BASE

After all the data has been entered into the data file and verified, students should sort and search the data to answer questions. For example, students might want to conduct searches to answer questions such as: How many interviewees have similar occupations? How have recent historical events in the community affected (or been affected

by) the interviewees?

As they answer these questions, students should formulate several hypotheses to test further with data base searches. Provide guidance in making sure that most of their hypotheses can be tested with the data you have available.

Carol Edwards is director of Project MiCRO (Minority Computer Resources Opportunity) of the Southern Coalition for Educational Equity, and a *Teaching and Computers* Advisory Board member. ***Louise C. Orlando*** is associate editor of *Teaching and Computers*.

SPOTLIGHT: DUNBAR MIDDLE SCHOOL, MOBILE, ALABAMA

An oral history scrapbook created by students at the Dunbar Middle School in Mobile, Ala., was the model for this class project. The project at Dunbar started as a small idea, growing out of African-American History Month. Students compiled a list of names of prominent native African-Americans in Mobile and began collecting three or four oral histories when the project suddenly mushroomed—and before they knew it, 22 people had been interviewed!

The Dunbar project was such a success that a school-wide reception was held to honor all of the interviewees. As an added attraction, the students created the Hall of Fame–a decorated hall display which included narratives and photographs of the interviewees, as well as information and pictures of national figures in African-American history.

The interviewees were so impressed with the project and the school that invitations for television and radio interviews with students and teachers followed. The grand finale came when the students were featured on the local evening news!

ADAPTING THIS PROJECT FOR SPECIAL NEEDS STUDENTS

BY NANCY BLEY

Students with learning disabilities can benefit tremendously from involvement in educational computing— if the computing activities are appropriately tailored to their needs. In this section in each issue of *Teaching and Computers,* you'll find definitions of key terms relating to students with learning disabilities, followed by strategies for adapting the class project for use with learning disabled students in your classroom.

DEFINITION OF TERMS

Short-term memory: Students with memory problems may have understood what they read or heard, but have trouble remembering more than a few details.

Abstract reasoning: Students with this difficulty have trouble drawing conclusions and relating information. They tend to be very concrete, have trouble with idioms, and often miss the overall idea of the story.

Simultaneous processing: Children with problems in this area find it difficult to carry out two or more functions at the same time, such as reading and speaking or listening and writing.

Visual discrimination: Students with visual discrimination problems tend to reverse their numbers and letters. When the print is too small or the lines too close together, it is especially hard for them to distinguish among letters.

Visual figure ground: Children with difficulties in this area often lose their place on a page, particularly if the print is too small.

Organizational skills: Organizing one's thoughts and work involves the ability to plan ahead and a sense of one's position in space and time. Learning disabled students often have trouble in one or more of these areas and, consequently, find it hard to organize their time and priorities so that they can successfully complete their assigned tasks.

ADAPTIVE STRATEGIES

Looking ahead: Some students, especially those with short-term memory, abstract reasoning, and organizational skill problems, will benefit from seeing an overall outline of this project before getting started. A teacher-prepared outline handout might include the theme, a sample list of questions, the names and descriptions of interviewees, a format for the final word processing document, and a sample data record. With these aids, students can develop a mental picture of what is expected of them, and can plan their time accordingly.

Thinking about thinking: The critical thinking skills outlined in the box on page 28 are not automatic for many children, and may be particularly challenging for those with abstract reasoning difficulties. Plan time to do specific, concrete practice work on these skills with children either prior to the project or at appropriate points in the process.

Listening and/or writing: Some students have trouble simultaneously processing what is said and taking notes; if they have fine motor problems, this task becomes even more laborious. Do not require these students to take notes during the interviews; provide them with a tape recorder and a list of questions instead. Other students learn best when they write down what they hear. Provide these students with a list of questions and perhaps some key words that they might listen for as the interview questions are asked and answered.

Following along: While the interview is in process, students who are listening but not taking notes or interviewing might benefit from having a list of questions in front of them, either as a handout or on the blackboard. Children with memory problems may have trouble relating the answer to the question if they cannot remember the question.

Planning the teams: When organizing your students (especially students with learning disabilities) into teams, be aware of their strengths and weaknesses. Encourage team members to coordinate ahead of time so that all are aware of the sequence of questions being asked, the main ideas to look for in editing the interviews, and so on. Help the group think of adaptive strategies where necessary.

Editing one question per page: To help students with visual perception and abstract reasoning problems to organize the interview transcripts, help them make double- or even triple-spaced printouts with one question and answer per page. Next, go over the printouts with students and help them identify key words which will guide them in editing the material. Some students may find it helpful to number sentences in sequence by hand, and/or cut and paste the printouts into sequence before editing on the word processor.

Practicing reasoning: Finding inferences and drawing conclusions is not always a skill that comes readily to students, particularly learning disabled students. Practice this skill before asking students to use it in editing their transcripts and formulating the data base. For example, you might also want to scan the material and provide a few multiple choices from which students can select inferences. Highlighting related thoughts and words in the material may also help students to understand the process.

Highlighting data base data: When students are ready to enter information from their transcripts into the data base, allow them to highlight the text—in several colors, if necessary— before typing material in on the computer. This will help students with visual perception difficulties.

Nancy Bley is academic coordinator at the Park Century School in Los Angeles, CA.

ELECTRONIC LESSON PLANS

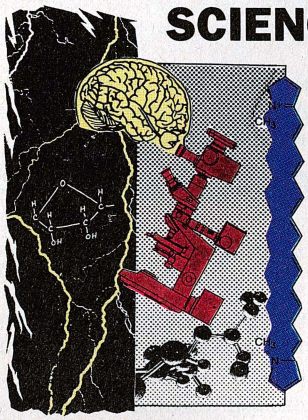
Computing In The Content Areas This Issue:

SCIENCE
Food Files.....38

MATH
How Fast Is Fast?.....39

LANGUAGE ARTS
Sci-Fi Thriller 41

SOCIAL STUDIES
Self-Esteem Booster.....42



SCIENCE

FOOD FILES

Curriculum Objective: *Learning about nutrition and good eating habits*
Computer Skill: *Creating and using a data base; writing with a word processor*

A good way for students to gain a better understanding and awareness of their nutritional habits is by having them monitor what they eat on a daily basis. This lesson plan lets students review the basic food groups and their components, and provides a means for them to analyze their own diets for nutritional value.

Materials Needed: You will need a data base and word processing program, and a printer. If you decide to create a wall chart of the basic nutritional information in the FOOD FACTS box, below, you will also need art supplies.

Preparation: Create a word processing handout or a wall chart of the basic nutritional information in the FOOD FACTS box, below.

FOOD FACTS

FOOD GROUPS
(With Recommended Daily Servings)

Meat Group—2 servings
Milk Group—3 servings
Vegetable & Fruit Group—2 servings
Bread & Cereal Group—2 servings

BODY FUELS

Carbohydrates. Foods like potatoes, corn, bread, cereal, dried and fresh fruits are carbohydrates. Carbohydrates give the body energy. In order to have a steady flow of energy, you must eat the proper serving each day of carbohydrates.

Fats. Another important source of energy is supplied by fats. Most of the fats we need, we get without trying because they are in many foods we eat, such as: milk, eggs, nuts, cheese, and meat.

Proteins. Proteins are necessary for growing. No plant or animal can live without them. Protein is important in building, maintaining, and repairing body tissue. It makes up three-fourths of the solid matter in the body, such as hair, muscle, brain, bones, teeth, and fingernails.

Discussion: Using your wall chart or handout, review with your students the names and recommended daily servings of the four basic food groups. Point out that the four food groups supply the body with the necessary vitamins and minerals needed for it to be healthy and strong. Next, show how the food groups have been broken down into three essential "fuels." Tell students that they will be using the computer to examine their own eating habits.

Activity: In this first activity, students use a data base as a food diary for recording everything they eat each day.

Have students set up a data base file as follows:

DAY OF WEEK:
BREAD/CEREAL:
MEAT:
DAIRY:
VEG/FRUIT:

Print out and photocopy enough blank data records so that each student can record his or her eating habits at home as well as during the school day. Each day, students should be given time to input information into their diary. (As an added reminder, post your nutrition information handout or wall chart near the computer.)

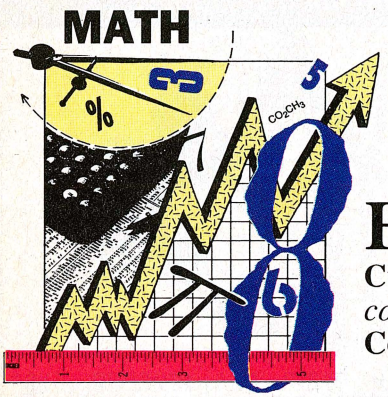
Activity: After everyone has finished collecting data for a week, students should begin the task of analyzing their own week's worth of dietary data. They can sort their data file by food group, for example, and compare their daily balance against what is recommended. They should also be able to pinpoint areas where a greater variety of foods might be called for. Using a word processor, have each student write a report on the analysis of his or her diet. Have each student include suggestions for improving his or her eating habits—like what type of foods he or she should eat more or less of to stay healthy.

Activity: Next, have students bring printouts of their data diary and their word processing report to a class discussion on eating habits. What similarities and differences are there in eating habits among classmates? Can students draw any overall conclusions or make any general recommendations to improve the class dietary balance?

Extension Activity: Ask students to collect recipes or create meal menus that would help balance their weekly diets. Have students add their recipes or menus to their word processing analysis reports, and circulate these (with names deleted) for class comparison and discussion.

Extension Activity: A month or so after this lesson is completed, have your students monitor themselves again for another week to see if they have made any lasting improvements with their diets.

Beth Smith, Fifth Street School, Bangor, ME



HOW FAST IS FAST?

Curriculum Objective: *Estimating and comparing speeds*
Computer Skill: *Using a simple Logo program*

What do your students think of when they hear the word "speed"? Their answers might include their own personal running records, the speed of a cheetah, the speed of light—or the processing speed of a computer. In this lesson, each student participates actively in comparing his or her own speed capabilities with the computer's. The fun read-aloud story that introduces the lesson will get students thinking about how fast fast really is.

Materials Needed: A clock or several watches with second hands; Apple Logo, Apple Logo II, or any other Logo program; multiple copies of the "Speedy Story" if your students will be helping you to read aloud.

Preparation: Type in the Logo procedures listed on the next page, and save them on a disk under the designated file names. Make enough copies of the read-aloud "Speedy Story" for your students to follow along or participate with.

Activity: Gather students in a circle, and read the "Speedy Story" together. You may wish to have two or more students read the parts of Lukie and Apollo.

Activity: Challenge your students to a race against the computer, just like Lukie's. Ask each student to estimate how many times he or she can write his or her name in one minute. Record the estimates. Then, when you say "go," have students begin writing their first and last names. When the minute is over, compare their actual counts with their estimates. How close were their estimates?

Next, ask your students to estimate the number of times they can say their names in one minute. Again, record their estimates. Then pair each student with a partner so one person can count while the other speaks. At the end of one timed minute, compare these results with the estimated guesses.

Finally, ask your students how fast they think the computer can print their names in one minute. Record these estimates. Then, have students use the WRITE.NAME program to see how fast the computer can type their names. Time the program for one minute. Have students compare their estimates with the number shown on the computer screen at the end of the timing session. Ask them to think of reasons why the computer can count more quickly than they can.

Extension Activity: As an extension activity, ask students how fast they think the computer could "count" without printing anything on its screen. Have them use the JUST.COUNT program to answer this question. Compare the results with the previous activity.

Dianne Hyer and **Roger Eckhardt**,
Los Alamos, NM

A SPEEDY STORY

One cool afternoon in the Louisiana swampland, Apollo the mosquito decided to visit his friend Lukie Lukas, a Cajun squirrel. As usual, Lukie was busy running around counting his acorns and talking to himself.

"Hi, Lukie! How are you?"

"Apollo! It's great to see you, really great," chattered Lukie. "So what brings you to Atchafalaya Swamp on this fine fall day, *mon ami*?"

"Well, I have an idea that will make counting your acorns a lot faster," Apollo said. "We'll do it on your computer."

"Make counting faster? Oh c'mon! I don't believe it!" Lukie said with a laugh. "Well, come with me. I just can't wait to see this."

Lukie chattered as Apollo set the computer up. "I don't know about this, Apollo, " Lukie said. "Do you really think it will be fast?"

"Lukie, how fast is fast to you?" Apollo asked.

Lukie cocked his head and thought for a few seconds. "As fast as I can talk," he said. "You have to admit I can get in a lot of words in a short space of time."

"That you can, Lukie. But the computer's even faster than your mouth—much, much faster. I'll prove it to you. How many times do you think you can say your name in one minute?"

"I can chatter nonstop for days at a thousand words per minute!"

"A thousand?" Apollo said. "Well, we'll see how fast you really can speak. When I say go, say your name as many times as you can for one minute. Are you ready?"

Lukie took a deep breath and nodded his head.

"On your mark, get set, go!" Apollo counted as Lukie repeated his name over and over.

"Stop!" shouted Apollo. "That was 97 times. Now, how many times do you think the computer can write and count your name?"

"Well, let's see," Lukie said. "It's writing my name, which should slow it down, and it's counting at the same time. Uh...80 times!"

"You're going to be surprised," Apollo said with a grin. "Ready? We'll time the program for one minute."

At the end of the minute, Lukie was speechless.

"That's 2,387 times, Lukie!" Apollo exclaimed. "Now that's fast! It printed your name 40 times a second. You see, Lukie, we can set up a speedy computer program to count and keep track of all the nuts in your storage closet." Apollo typed in a simple inventory program as he spoke. "You'll have the answers right at your fingertips. Here, let me show you how to enter the data..."

Logo procedures for this lesson appear on page 40.

(continued)

GLEN DAVIS

Circle 9 on Product Info Card.

Compu-Teach

EDUCATIONAL SOFTWARE

AND

THE EDITORS OF

TEACHING and computers

Announce The Second Annual "Once Upon A Time..." Story Writing CONTEST!

Write and illustrate your own story using "Once Upon A Time..." & "Once Upon a Time II ..." software from COMPUTEACH.

CALL 1-800-44-TEACH

to receive contest details and your FREE 4- color instructional Poster/Entry Blank

CONTEST DEADLINE

January 31, 1990

Void where prohibited

Fast Procedures: These procedures were written for use with Apple Logo and Apple Logo II. They can be adapted for use with other versions of Logo.

```
TO WRITE.NAME
LOCAL "NAME LOCAL "CHAR
TS CLEARTEXT
DIRECTIONS
CYCLE 1
MAKE "CHAR RC
END

TO DIRECTIONS
PR [THIS PROGRAM WILL SEE HOW MANY TIMES]
PR [YOUR NAME CAN BE PRINTED IN ONE]
PR [MINUTE.]
PR []
PR [TYPE YOUR NAME AND PRESS RETURN.]
PR []
RECYCLE
MAKE "NAME WORD RW " \\
PR []
PR [GOOD! NOW WHEN SOME-ONE WITH A WATCH]
PR [SAYS GO!, PRESS ANY KEY TO START THE]
PR [PROGRAM.]
PR []
PR [WHEN THEY HAVE TIMED A MINUTE, SAY]
PR [STOP!, PRESS ANY KEY TO STOP THE]
PR [PROGRAM.]
PR []
MAKE "CHAR RC
END

TO CYCLE :NUM
IF KEYP [PR [] PR [] PR [THE NUMBER OF TIMES THE PROGRAM] PR (SE [PRINTED YOUR NAME WAS ] :NUM [ TIMES.]) PR [] STOP]
TYPE :NAME
CYCLE :NUM + 1
END
```

To begin this program, type WRITE.NAME on the prompt line and hit return.

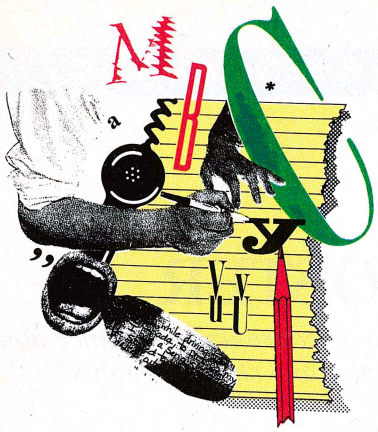
```
TO JUST.COUNT
LOCAL "CHAR
TS CLEARTEXT
DIRECTIONS.2
COUNT.CYCLE 1
MAKE "CHAR RC
END

TO DIRECTIONS.2
PR [THIS PROGRAM WILL COUNT TO ITSELF]
PR [UNTIL YOU STOP IT.]
PR []
RECYCLE
PR [WHEN SOMEONE WITH A WATCH SAYS GO!,]
PR [PRESS ANY KEY TO START THE PROGRAM.]
PR []
PR [WHEN THEY SAY STOP!, PRESS ANY KEY]
PR [TO STOP THE PROGRAM. LOOK AT THE]
PR [SCREEN TO SEE HOW FAR THE PROGRAM]
PR [COUNTED.]
PR []
MAKE "CHAR RC
END

TO COUNT.CYCLE :NUM
IF KEYP [PR [] PR SE [THE PROGRAM COUNTED TO ] :NUM PR [] STOP]
COUNT.CYCLE :NUM + 1
END
```

To begin this program, type JUST.COUNT on the prompt line and hit return. The instructions with the previous activity will work with this program.

*If using Apple Logo, delete TS CLEARTEXT.



LANGUAGE ARTS

SCI-FI THRILLER

Curriculum Objective: *Creating character, settings, and plots*
Computer Skill: *Using text and graphics together*

Imagine, creatures from outer space in your backyard! Thoughts like these float through kids' heads everyday. This creative thinking and writing lesson plan channels those thoughts into science fiction story starters for students at three different ability levels.

Materials Needed: You will need a word processing program and a graphics program, or an illustrated story program such as *The Children's Writing and Publishing Center* (Learning Co.), *Kidwriter* (Spinnaker), or *Story Maker* (Scholastic).

Preparation: Story starter files for three different ability levels are shown, below (#1 = primary grade or lower ability students; #2 = mid-elementary children of average ability; #3 = upper elementary or higher ability children). For each level, type in the file using your word processor or story program and then save on a data disk under a unique filename. Remind your students to save their work on their own data disks.

STORY STARTER #1

Read the sentences in capital letters. Then follow the directions below.

A SPACESHIP LANDS IN YOUR BACKYARD.
A CREATURE FROM ANOTHER PLANET HAS COME TO VISIT YOU!
YOU GO OUT TO MEET IT.

WHEN YOU COME BACK INSIDE, YOUR BEST FRIEND CALLS AND WANTS TO KNOW WHAT THAT BRIGHT LIGHT WAS IN YOUR BACKYARD...

1. Draw a picture showing what the creature looks like when it landed in your backyard.
2. Write a story for your best friend about the space creature. Tell everything you can about it.

STORY STARTER #2

Read the sentences in capital letters. Then follow the directions below.

YOU ARE WALKING TO SCHOOL WITH A FRIEND. SUDDENLY YOU HEAR A VOICE COMING FROM THE BUSHES.

"P-S-S-S-T, P-S-S-S-T. HELLO? HELP ME!"

YOU STOP. OUT FROM BEHIND THE BUSHES STEPS A SPACE CREATURE.

"HEY, IS THIS MARS? I WANT TO KNOW IF I LANDED IN THE RIGHT PLACE. ARE YOU A MARTIAN?" THE CREATURE ASKS.

RIGHT AWAY YOU KNOW THIS CREATURE NEEDS HELP...

1. Create a picture of the space creature and its spacecraft.
2. Write a story telling what you do to help the friendly, confused space creature. Be sure to tell about the space creature in a way that will help those who read your story see it as you do.
3. Before you save your story, have a friend edit it for spelling, capital letters, and punctuation.

STORY STARTER #3

Read the sentences in capital letters. Then follow the directions below.

YOU ARE A MEMBER OF THE U.S. EXPLORER TEAM OLYMPIA, AND YOU HAVE BEEN TRAVELING IN SPACE FOR SIX MONTHS TO REACH A PLANET CALLED ZOLAR.
YOU KNOW ZOLAR IS INHABITED. ZOLARIANS, THE CREATURES OF ZOLAR, HAVE COMMUNICATED WITH EARTH BY RADIO WAVES AND HAVE INVITED AN EXPLORER SHIP TO VISIT. BUT UP UNTIL THIS TIME NO EARTHLING HAS SEEN A ZOLARIAN.
IN A FEW MOMENTS YOUR SPACESHIP WILL BE LANDING ON ZOLAR...

1. Use your story or graphics program to create a picture of a Zolarian creature for the people back on Earth.
2. Completely describe the creature in words. How is it different from us? Save your work on the data disk.
3. Use graphics to create a scene from the planet Zolar as it looked when you stepped off the spaceship.
4. Write a report on what happened when you stepped onto Zolarian ground. This report will be for your Explorer Team Leader back on earth. He or she needs to know everything that happened.
4. Before you save your report, edit it with a friend for capitals, spelling, and end punctuation.

Activity: Assign students to work individually with the story starter file appropriate to their age and ability level. Have students color in their graphic printouts and post them with their stories around the classroom.

Activity: Have your students imagine they are reporters for your local newspaper. They've just heard that a spaceship has landed in the center of town. Assign students to work in pairs to write up "interviews" with the space creatures.

Extension Activity: Have students explore skills related to point of view by creating a newspaper called the SpaceAge Times, in which space creatures report on the earth and humans.

Beth Smith, Fifth Street School, Bangor, ME

(continued)

SOCIAL STUDIES

SELF-ESTEEM BOOSTER

Curriculum Objective: *Building self-concept and discouraging substance abuse*
Computer Skill: *Using a word processor to organize and share thoughts*

Teachers and parents alike are learning that telling kids to "just say no" to drugs and alcohol doesn't always work. So what do you do instead? You help build students' self-esteem so they can make positive, healthy choices for themselves— such as not abusing substances like alcohol and drugs.

This lesson plan is designed to help students discover and appreciate who they are, as well as to learn something about drugs and peer pressure. Students will anonymously answer questions in a word processing program, discuss their responses as a group, and then create self-esteem boosting fliers.

Materials Needed: You will need a word processing program, a printer, and art supplies such as crayons or colored markers. If you have a graphics/printing program such as *SuperPrint* or *Print Shop*, you may incorporate it into the third activity as well.

Preparation: Type the SELF-SEARCH questions, below, into a word processing file. Write all of the letters of the alphabet, plus a few double letters if necessary, on scraps of paper for students to choose randomly as their "code names." Each student will answer SELF-SEARCH questions anonymously, and save the file under his or her code name.

Activity: Have students take turns answering the questions in the SELF-SEARCH file. Emphasize that their responses to the questions will be confidential. Each student should save his or her answered questions under his or her chosen code name.

Activity: After everyone has answered the questions, choose several student volunteers to COPY the answers from each individual file into a master file. Print out the master file and make copies for everyone in the class. Hold a class discussion in which students compare and contrast all the different responses. Under the "About Drugs" section, help students track down factual information to answer the questions raised there. End with a general discussion about the importance of feeling good about oneself, and the ways students can think of to boost their own self-concept (for ideas, see the "Booster Box," below).

Activity: Have students use a word processing or graphics/printing program and their art supplies to create "image booster" fliers. Each student should create two fliers: one for him or herself, and the other to exchange with a classmate. The first flier should feature an "I" booster (such as, "I'm a winner!") while the second should focus on "you" (such as, "You're tip-top!"). Have students exchange these second fliers at random, being sure to say "thank you" for the compliments they receive. Students can then post their fliers where they are likely to see them often, such as inside a lunchbox or on a bookcover.

Louise C. Orlando, New York, NY

SELF-SEARCH

Part 1: All About You

What are some of your favorite things to do?

List all the things that make you special, like being able to run fast, being good in math, or painting well.

List all the things that you really like. Why do you like these things? Do they make you feel good all the time?

List all the things that you don't like. What makes these things different from the things you like?

What makes a person a hero? Do you have any heroes? Who are they? Why are they your heroes?

Part 2: About You and Your Friends

Do you have a lot of friends? Or one or two very close friends?

What makes a good friend?

Do you always like what you do with your friends? Do your friends ever do anything that bother you?

How do you act when they do something that you think is wrong?

Part 3: About Drugs

Write three questions you've always wanted to ask about drugs but didn't.

Has anyone ever offered you drugs? What did you do? What kind of drug was it? Did you try it? If you tried it, how did it make you feel? Did you try it again?

Did you know that alcohol is a drug? Did you ever drink alcohol? Where were you when you drank it? How did it make you feel?

Why do you think kids drink or use drugs? Do you think it's okay for kids to drink or use drugs?

BOOSTER BOX

PAT YOURSELF ON THE BACK!

Have students think about the lists they made of their achievements, and pat themselves on the back for each one! Explain that this should become a common practice with each of them.

GO FOR THE GOALS!

Encourage students to choose one goal they want to accomplish each day, such as getting up 15 minutes early to eat a good breakfast, asking questions in class, and finishing homework before watching TV. The next day, students should review their goal. How close did they come to meeting it? (Assure students that making an effort to meet a goal is often just as

(continued)

important as meeting it.) Once your students get the hang of daily goal setting, have them try weekly and monthly goals.

TAKE A COMPLIMENT

Encourage students to practice accepting praise or a compliment with a simple "thank you." Learning how to accept praise instead of brushing it off as "nothing" is a big step toward acknowledging one's own accomplishments.

GIVE A COMPLIMENT

One variation of the golden rule might be, make yourself feel good by helping someone else feel good. Ask students to think of the last time they picked negatively on someone and how it made them feel; chances are, they felt lousy afterwards. Now turn it around, and ask how they felt after complimenting someone. Most students will remember that praising someone else made them feel good.

SMILE!

Tell students that the quickest way to get noticed and the easiest way to warm others up is to smile. They may be surprised at how good a big honest smile can make themselves and others feel.

Resources

I Dare You (book), by Joyce L. Vedral, Ph.D., Holt, Rinehart and Winston, NY.

Making Friends With Yourself and Other Strangers (book), by Dianna Daniels Booher, Julian Messner, NY.

Can I Help How I Feel? (book), by Carl V. Morrison .and Dorothy Nafus Morrison, Atheneum, NY.

COMPUTER CHALLENGES FOR KIDS

BACK TO SCHOOL SPECIALS!

MY OWN DATA BASE

Challenge your students to track how much they grow and change over a year with this self-concept data base.

Set up a data file with the following fields: NAME, HEIGHT, WEIGHT, HAIR COLOR, EYE COLOR, AGE. Place a scale and a yardstick near your computer corner, along with a special folder for saving printouts. During the first week of school, have students work in pairs to weigh and measure each other. Then have each student fill in a data record for himself or herself, print out the record, and draw a self-portrait to accompany it. Display the decorated data records for a week or two, then collect and save them in the folder.

During the last weeks of school, have students repeat the process and report on how they've grown!

—Trisha Ainsa

CLASS PREDICTIONS

Put your class clowns to work with this fun word processing/graphic arts activity.

Set up a simple word processing file with the headings NAME and PREDICTION repeated as many times as you have students in your class. During free time, challenge students to take turns opening the file and typing in humorous, imaginative "predictions" for themselves, the class as a whole, or the world in general. For example, one student might predict that the school cafeteria will be turned into a swimming pool to help kids get more exercise; another student might predict that Pogo sticks will replace skateboards as the most popular form or transportation among kids in America. Have your students print out the file periodically and illustrate their predictions with hand-drawn or computer graphics for display on the bulletin board.

AWARD WINNING SOFTWARE SOLUTIONS FOR:

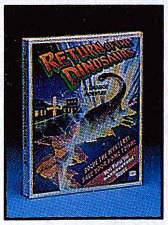
• Today's Classrooms • Adult Literacy
• Special Education • Private Industry

Reading Skills Development Program

• Vocabulary • Consonants • Vowels
• Comprehensive • Correlated to Basal Readers
• Human Digitized Voice • Networkable
• Tutor on every disk
• Pre-set achievement & targets, cures carelessness & promotes following instructions
• Management
GRADES 1-8

Ask for **FREE** 10 minute Demo Video
Call 1-800-222-2811
FOR FREE CATALOGUE... including other programs Micro-Spell, Micro-Read, Spelling, Language Arts, Foreign Language, and many others.

AEC
American Educational Computer



Award Nominee
Return Of The Dinosaurs
is a remarkable Database Adventure that enhances **intuitive thinking and problem-solving abilities,** requires practical time and money management decisions and expands database access skills. By playing the 4 game levels, computer skills are aquired that prove invaluable in the future use of any database. This is a wonderful game for families as well as single players.

SCHOOL VERSION
LAB PACKS
NETWORKABLE

Contact our office for your nearest authorized dealer.

American Educational Computer, Inc.
7506 N. Broadway Ext., Suite 505
Oklahoma City, OK 73116-9016
405-840-6031

FIRST STEPS

Computer Activities For Primary Grades

BY TRISHA AINSA, PHD

Getting to Know You

Many early childhood and primary teachers are now using the computer to enhance cognitive learning, develop children's self-esteem, and stimulate divergent thinking. The introductory language arts-based activities offered here will help introduce your students to the computer and to each other, getting your school year off to a cooperative and creative start.

MANAGEMENT TIPS

A key element in early education experiences is play, and the computer fits right in! In a classroom with one to three computers, you can maximize the "playing experience" by creating a "computer center" environment much like the water table or block center. For most activities, you'll want small groups of children to rotate through the center during the schoolday, so make sure there's enough room for two to four children to work together. Many of the suggested activities call for a printer, which you will also wish to accommodate in your computer corner. Post a list of computer center rules, and designate an area for storing disks, printouts, and so on.

Since some activities call for you to demonstrate programs for the whole class, you'll also want the option of gathering larger groups of children around the monitor or moving the computer out of the center to the front of the classroom.

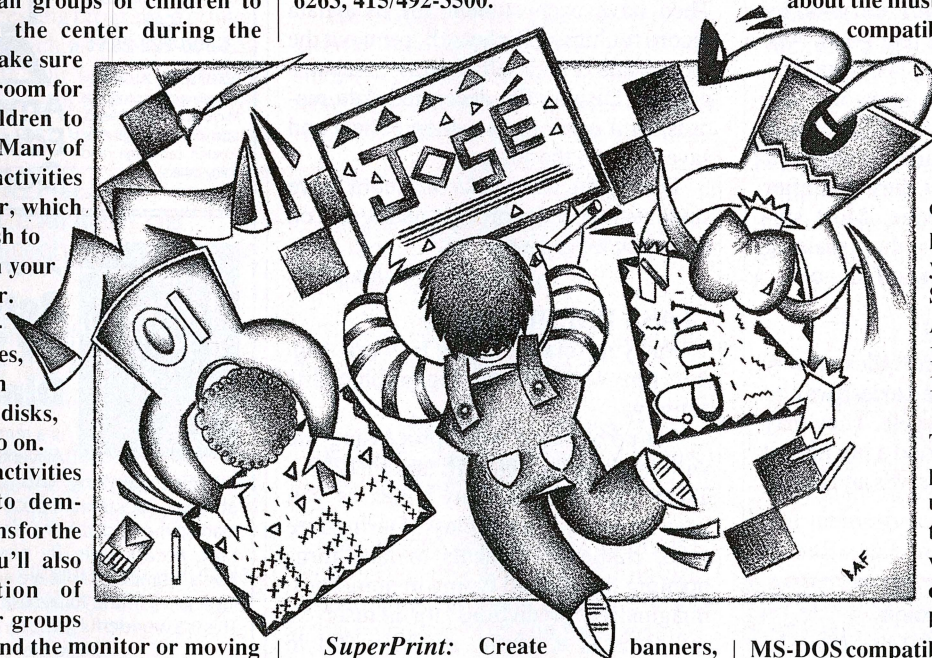
CHOOSING SOFTWARE

Teachers are always interested in quality software that will enhance their developmentally appropriate curriculum. Before purchasing a package, consider its purpose: entertainment, teaching, drill, art, music, publishing, programming, or utility. Does the program succeed in its goals for the age and experience of the child using it? Software for children should foster and satisfy curiosity; be content appropriate and interesting; require that the children think and make choices; be easy to use with minimal adult help; and be designed so that it is used repeatedly, therefore justifying the cost.

The software packages listed below are well-suited for use with young children in the beginning language arts and art activities described in the lesson plan on the next page.

SOFTWARE RESOURCES

The Print Shop: Children design and print cards, signs, banners, and letterhead. Apple, Commodore 64/128, MS-DOS compatibles. Broderbund, 17 Paul Dr., San Rafael, CA 94913-2947; 800/527-6263, 415/492-3500.



SuperPrint: Create banners, posters, greeting cards, from super-large to super-small. Users can place text and graphics anywhere they want. Graphics packs sold separately. Apple, MS-DOS compatibles. Scholastic, P.O. Box 7502, 2931 East McCarty St., Jefferson City, MO 65102; 800/541-5513.

Teddy Bear-rels of Fun: With assistance, children create signs, cards, and stories, and so on. Apple, Commodore 64/128. DLM, One DLM Park, P.O. Box 4000, Allen, TX 75002; 800/527-4747, 800/442-4711 in Texas.

Stickybear Printer: Children can print cards, stories, stationery, and so on. Apple. Optimum Resource/Weekly Reader, 10 Station Pl., Norfolk, CT 06058; 800/327-1473.

Primary Editor Plus: Allows young children to write and edit with minimal supervision. MS-DOS compatibles. IBM Educational Systems, Dept. PC, 4111 Northside Pkwy., Atlanta, GA 30327; 800/IBM-2486, ext. 900/PC.

The Children's Writing and Publishing Center: Desktop publishing program for kids. Apple, MS-DOS compatibles. The Learning Co., 6493 Kaiser Dr., Fremont, CA 94555; 800/852-2255.

Kidwriter: Create a picture from a variety of objects and then type a story about the illustration. Apple, MS-DOS compatibles, Commodore 64/128, Atari. Spinnaker, One Kendall Square, Cambridge, MA 02139; 617/494-1200.

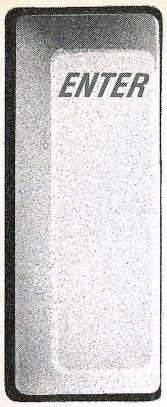
Magic Slate II: An easy-to-learn word processor that grows with your students. Apple. Sunburst, 39 Washington Ave., Pleasantville, NY 10570-2898; 800/431-1934, 914/769-5030.

Talking Text Writer: This talking word processor for children uses synthesized speech to pronounce letters or words as they are typed on screen or to read them back afterwards. Apple, MS-DOS compatibles. Scholastic, P.O. Box 7502, 2931 East McCarty St., Jefferson City, MO 65102; 800/541-5513.

Muppet Slate: For use with the Muppet Learning Keys, this is a word and picture processor. Lots of control options allow teachers to customize the program. Apple. Sunburst, 39 Washington Ave., Pleasantville, NY 10570-2898; 800/431-1934, 914/769-5030.

For Primary Lesson Plan, see page 46.

Barbara Friedman



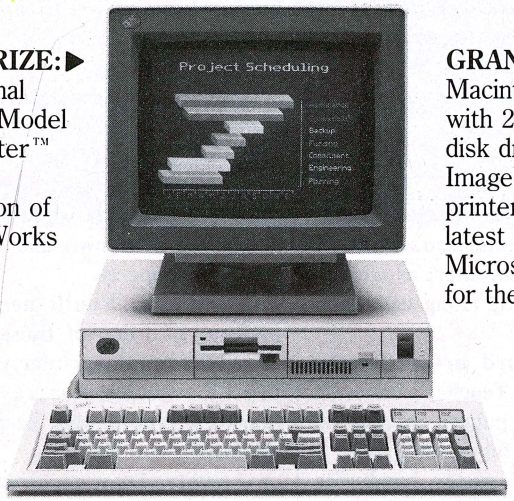
ENTER The Microsoft Works Lesson Plan Writing Contest

Sponsored by Microsoft Corporation and Scholastic's *Electronic Learning* and *Teaching and Computers* magazines

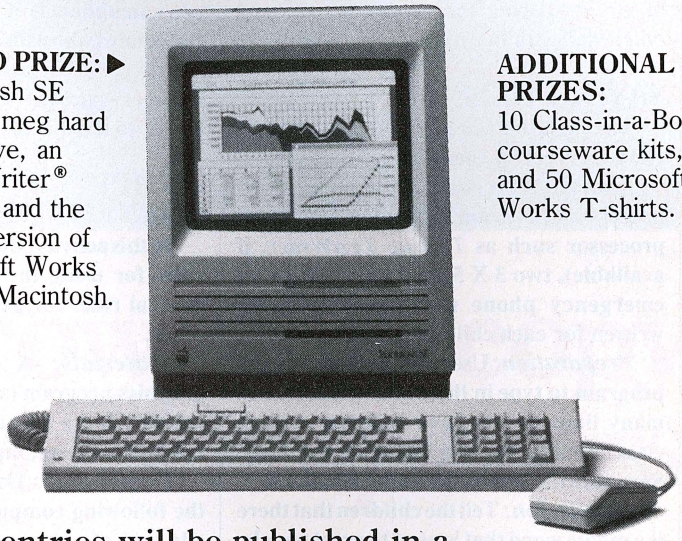
Microsoft® Works is one of the most popular software programs for teachers and administrators using Macintosh and IBM® PCs and compatibles. Works is an academic favorite because it is easy to learn and use, and uniquely combines a complete set of tools for teaching and classroom management: word processing, spreadsheet, database, communications and drawing (Mac® only). And, if you're one of the thousands of Works users who writes your own electronic lesson plans for grades K-12, you could be a winner in our nationwide search for the best lessons designed with Microsoft Works.

Two Fabulous Grand Prizes

GRAND PRIZE: ▶ IBM Personal System/2® Model 30, Proprinter™ II, and the latest version of Microsoft Works for the PC.



GRAND PRIZE: ▶ Macintosh SE with 20 meg hard disk drive, an ImageWriter® printer, and the latest version of Microsoft Works for the Macintosh.



ADDITIONAL PRIZES: 10 Class-in-a-Box courseware kits, and 50 Microsoft Works T-shirts.

PLUS: In addition to the prizes, winning entries will be published in a special editorial supplement to the May/June 1990 issues of *Electronic Learning* and *Teaching and Computers.* Winners will also be featured in Scholastic's *Instructor*.

HOW TO ENTER **1.** The Microsoft Works Lesson Plan Writing Contest is open to all public, private, or parochial school teachers in grades K-12. **2.** Each lesson plan entry must include a separate cover sheet with the name and address of the person submitting the entry, the subject area of the lesson plan, the grade level it's designed for, curriculum objective(s), materials needed, Microsoft Works application(s) used in the lesson plan, and the platform (IBM or Macintosh) it's written for. **3.** All lesson plan entries must incorporate the use of one or more Microsoft Works application programs. **4.** The maximum length of each lesson plan is 3,000 words, plus any data files, templates, and/or student worksheets. **5.** Entries will be judged by a panel of three judges including a curriculum specialist, computer coordinator, and Scholastic editor. Decision of the judges is final. **6.** Entries will be judged for their creativity of concept; relevance of subject area and objectives; potential effectiveness in meeting objectives; appropriate and innovative use of Works module(s); and overall clarity of presentation. **7.** All entries become the property of Microsoft Corporation, which reserves the right to edit and use the entries for promotion purposes without compensation or notification. **8.** All entries must be postmarked no later than January 31, 1990. **9.** Family members or employees of Microsoft Corporation or Scholastic Inc. are not eligible to participate. The contest is VOID WHERE PROHIBITED BY LAW.

entries to: Microsoft Contest, % Bill Morgan, Electronic Learning, 730 Broadway, New York, NY 10003

Microsoft®
Making it all make sense.™

© 1989 Microsoft Corporation. All rights reserved. Microsoft and the Microsoft logo are registered trademarks and "Making it all make sense" is a trademark of Microsoft. IBM and Personal System/2 are registered trademarks of International Business Machines Corp. Macintosh, Mac, and ImageWriter are registered trademarks of Apple Computer Inc.

PRIMARY LESSON PLANS

In the following four-part lesson, early childhood and primary students learn to communicate with one another and with the computer. They will practice spelling their names, reciting their phone numbers, creating designs with their names and graphics on the computer, and creating computer messages for their friends. They will also hone their fine motor skills, and practice classifying information and discriminating visually. Finally, they will learn about privacy, respecting the property of others, caring for the computer, and other "rules to live by."

SAYING HELLO

Through this fun introductory activity, children greet the computer and each other.

Materials Needed: Computer, word processing program (or a "talking" word processor such as *Talking TextWriter*, if available), two 3 X 5 card sets of home or emergency phone numbers printed or written for each child in advance.

Preparation: Use your word processing program to type in the word "Hello" on as many lines as you have children in your class, double spacing between the lines. Save this file under the name HELLO.

Discussion: Tell the children that there is a magic word that is used to greet people, start conversations, answer the phone, and make friends. The word is "Hello." Even the computer knows how to say hello.

Activity: Boot up your word processing program, gather the children around the monitor, and call up the file HELLO. Scroll through and have children read aloud to see how eager the computer is to say hello and make many new friends.

Next, have each child individually say, "Hello, my name is..." back to the computer. Type in each child's name as he or she speaks it. Scroll through the file again and have all the children read the computer's personalized greetings aloud.

Next, pass out the 3 X 5 cards with phone numbers. Call out each child's name in the order it appears on the screen, and have the child respond with his or her phone number. Type in the phone numbers. Then, turn the monitor so that it is not visible to the children and call out phone numbers at random. When each child recognizes his or her number, he or she should respond by calling out, "Hello"!

Extension Activity: Convert your HELLO file into a complete student directory. Call children to the computer individually, and help them add last names and addresses to the names and phone numbers already listed. Delete the "Hellos," and save this file as DIRECTORY. Print out one good copy and duplicate it for the parents of the children in your class. Be sure to save the directory on a disk so that you can update it at the end of the year for classmates who want to get together during summer. Some children will want their summer vacation destinations and dates added to the directory.

COMPUTER CORNER MANNERS

In this activity, students learn some basic rules for using the computer, as well as general rules for getting along with each other.

Materials: A word processing or graphics program (see Teacher's Notes), a printer, large poster paper, crayons or colored markers, tape for posting rules.

Preparation: On a poster, handwrite the following computer corner rules (and add any of your own): No food or drink near computers, always put software back in its jacket, handle disks with care, take turns using the keyboard, don't read or write in anyone else's computer files.

Activity: Go over the above rules with your students, making sure they understand them. Then divide the class into small groups to create picture posters illustrating each rule. Help the groups use your graphics software, printer, and art supplies to make clear, attention-grabbing posters. Hang these in the computer corner.

Extension Activity: Have students think of other classroom courtesy rules to illustrate using the computer. Post these throughout the classroom, and discuss why rules like these are helpful.

MICROCHIP UNION

In this activity, students create messages for each other and learn about respecting privacy.

Materials: A graphics package that allows for some text (see Teacher's Notes); a blank, formatted disk for each child.

Activity: This activity goes beyond saying "Hello." After the children have begun to form friendships, they might want to write messages or draw pictures for each other. Show them how to create picture messages using a graphics software package. Each message should be saved under a unique filename on the intended recipient's data disk. The computer then becomes a Message Center with enough privacy for even best friend's secrets.

NAME-MATS

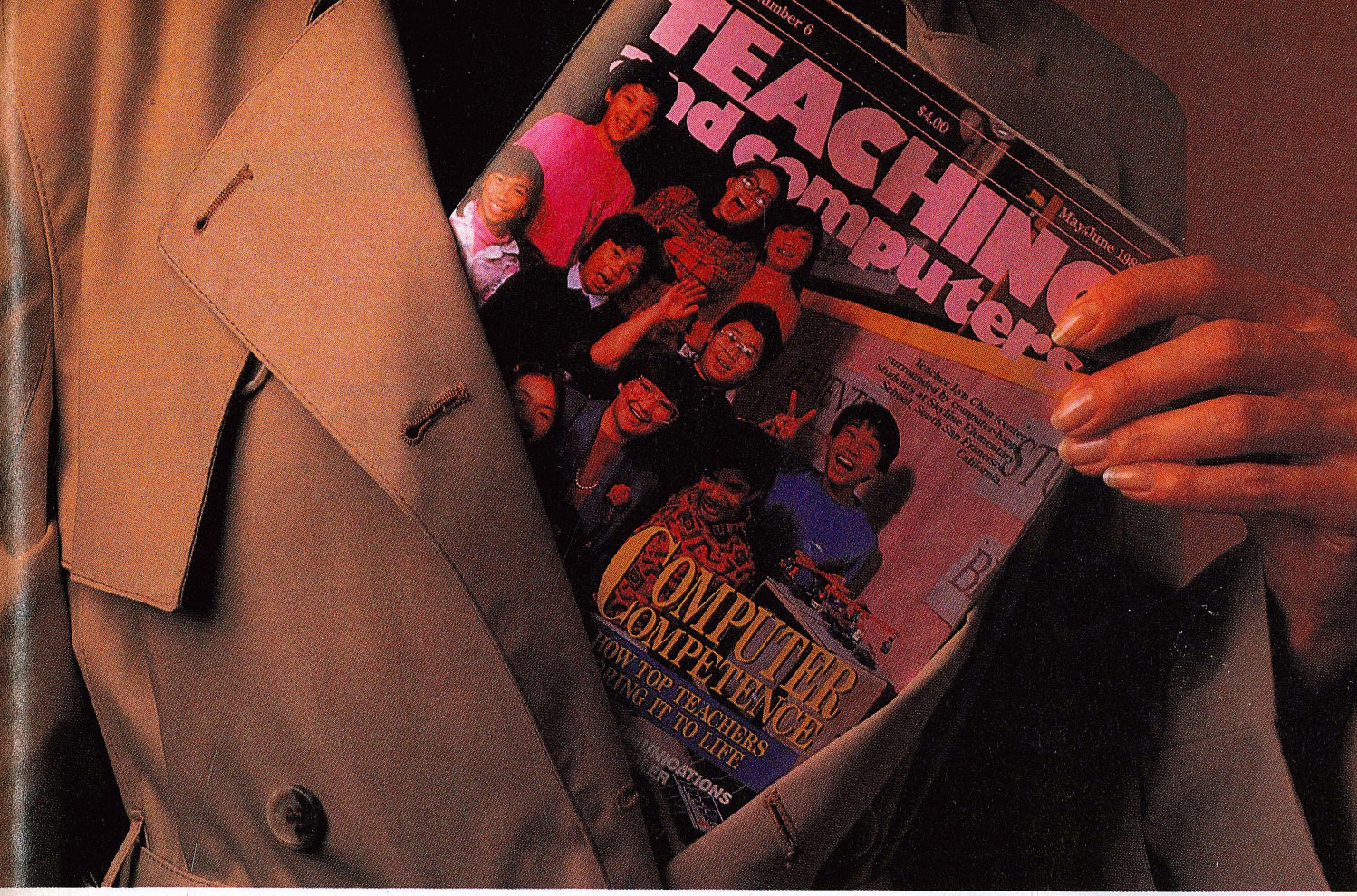
In this section, the children will be using the computer to make personalized place mats for the lunch table or work area. They'll also branch out into other personalized items while learning about respecting their own and other people's personal property.

Materials: You'll need a graphics package like one of those listed in the Teacher's Notes, a printer, colored printer paper if available, plus crayons or colored markers. You'll also need access to a laminating machine.

Activity: Show children how to use your graphics package to create a sign. Explain that they will make a sign of their name and a favorite picture which you'll then laminate for them to use as a placemat at snacktime or in the arts and crafts area. Allow each child time to experiment with different type and graphics to write and illustrate his or her name. Help children print out their name-mats, then have them add color with their crayons or markers. Laminate the mats and return them.

Extension Activity: Let the children experiment with the other choices (such as cards, letterhead, and banners) available in your graphics package. As they work, ask children to think about what it means to put one's name on something. Hold a class discussion on this topic before children place their computer-created name markers on other personal and classroom items.

Trisha Ainsa is director of the Computer Literacy in Children/Title VII Program, Region XIX Education Service Center, El Paso, Texas, and an associate professor at the University of Texas at El Paso.



Did you "borrow" this copy of *Teaching and Computers*?

Yes, we know you'll give it back... but wouldn't it be easier to have your very own subscription?

That way, you can keep every valuable, information-packed issue of *Teaching And Computers*—with all of its electronic lesson plans, task cards, activity posters, inservice workshops, special supplements, reproducibles, and special issues—to use again and again.

So use the coupon below or the enclosed order card to take advantage of our special introductory offer.

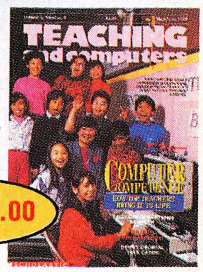
Then, return this issue. No questions asked.

Teaching And Computers
The Magazine for Teachers of the 1990s

SCHOLASTIC

☐ **YES! Please start my subscription with the next available issue.**

Mail to: Scholastic *Teaching And Computers*
P.O. Box 2040
Mahopac, NY 10541-9963



Just $17.95 for 6 colorful, idea-filled issues.
(Regular rate: $23.95.)

SAVE $6.00

☐ **Payment enclosed.**
☐ **Bill me.**

Name _____

School _____

Address _____

City/State/Zip _____

Job Title _____

NOTE: If above is NOT your school address, please provide

School name _____ **Zip** _____

H4903

Prices valid in U.S. only. In Canada, contact Scholastic, Richmond Hill, Ont. L4C 3G5

MICRO IDEAS

EDITED BY LOUISE C. ORLANDO

Quick Computer Tips And Activities

APPLEWORKS COLUMNS MADE A SNAP

I have found the answer to the one question teachers everywhere are asking: how can I make the *AppleWorks* (Claris) word processor print in columns? Once you know how to make columns, you can use them for everything from printing a student newspaper to making a matching test. With these nine simple steps (which take longer to explain than to do), column-making is a snap.

1. Write your document.
2. Set margins to get the correct column width.
3. Print the document to an ASCII file.
4. Start a one category data base file from the ASCII file.
5. Print the data base to a DIF file.
6. Start a new spreadsheet from the DIF file.
7. Copy the last half of the document to the top of column B and adjust the column width.
8. Print the document to the clipboard for the word processor.
9. Start a file for the word processor, copy the file from the clipboard, and *voila*—you've made columns! Write the ASCII and DIF files on a RAMdisk to make this even faster.

Dennis M. Rasmussen
Sioux City Community School District
Sioux City, Iowa

ONE STEP AT A TIME

Start your word processing students off on the right foot—or the left—when learning how to open, save, load, and print a file.

To make "Computer-Using Feet," have students trace their right and left feet on oaktag and cut them out. Next, type on the computer or write on the chalkboard the commands you use to make each part of your word processing program work. Your students should copy these commands with pencil onto their footprints—one command on each side. Review each function with your students as they trace over the pencil-written commands in crayon or marker.

START THE YEAR ON THE RIGHT FOOT!

Finally, punch a hole in each footprint at the heel, and tie the feet together with a long piece of yarn. Students can hang their footprints around their necks when they are at their work station.

These footprints are students' first steps to word processing. They help students to help themselves rather than ask their teachers to repeat directions!

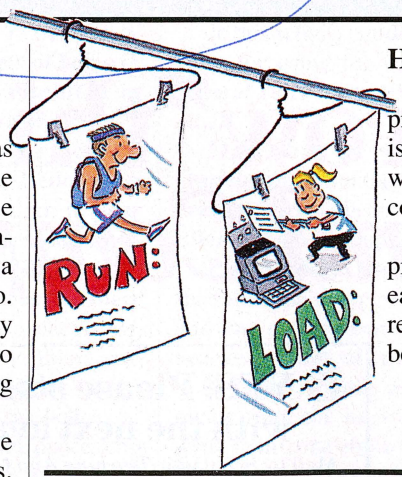
Rhonda Schier
Ponderosa Elementary School
Aurora, Colo.

COMMUNICATION GAME IS A HIT IN THE CLASSROOM

A popular party game has pushed its way into the classroom and onto the computer! It's a communication game, played with a drawing program like Logo. This activity promises not only to be a challenge, but also good practice in organizing thoughts.

To begin, choose one student to give directions. Have this student pick a simple geometric shape and draw it on a piece of paper (without letting his or her classmates see it). Next, the student stands in front of the room and describes the drawing to his or her class. The class uses the Logo program to draw what they hear. After a set amount of time, the student describing the drawing shows the class the picture. Finally, let students compare their renditions, and be ready for an explosion of laughter!

Patricia Salisbury
North Evans, N.Y.



HANG ONTO THIS FLOOR CHART IDEA

Having all types of computer procedures, from word processing commands to BASIC building blocks, within view, is important when familiarizing students with computers. One way to make this easier is to create a floor rack with removable computer procedure charts.

On large chart paper, with dark marker write each computer procedure your class will study, then laminate the charts. Attach each chart to a coat hanger with clips. Now charts can be easily removed from the rack and hung anywhere in the classroom for better viewing.

Dolores B. McNutt
Glen Forest Elementary School
Falls Church, Va.

LEARN ABOUT COMPUTERS WITH BINGO

What do rockets, banks, and amusement parks have in common? They all use computers! A fun way to teach students about the different ways computers are used is to create your own personalized version of Bingo.

Use construction paper to make Bingo cards. Divide each card up into 16 squares. In these squares, print the name of a place, situation, or area where computers are used, and a brief description of how they are used. (For example, "SPORTS: keeps track of scores and sporting events.") Make as many of these cards as you'll need for your class, then laminate them. Using a different color construction paper, cut out Bingo markers. Finally, for the caller's card, list about 24 places, situations, or areas where computers are used (be sure to include all of the places listed on the students' game cards).

To play, give each student a card and some markers. As the caller says a place, the students cover the spot on their card. Players win Bingo by getting four in a row—diagonally, vertically, or horizontally. As a special treat for the winners, let them choose their favorite software programs to be booted up during free time.

SPORTS: Keeps track of scores and sporting events.

SUPERMARKETS: Keeps track of inventory.

Janet C. Evanko
East Amherst, N.Y.

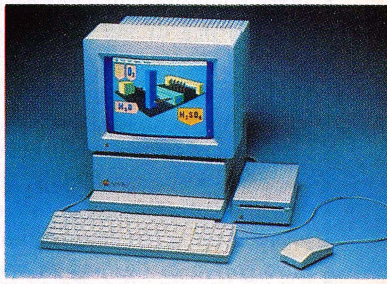
Mike Moran

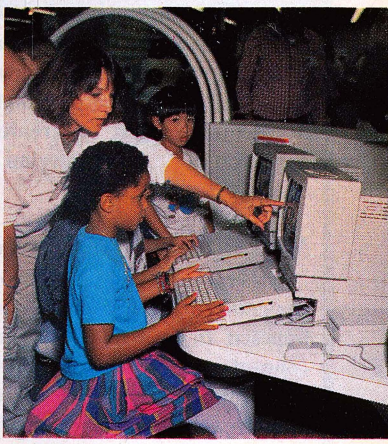
Save $5.00 or More by Pre-registering Now

AppleFest'89 SanFrancisco

Discover How to Make the Most of Your Apple® Computer!

September 22-24, 1989
Brooks Hall / Civic Auditorium
San Francisco, California





APPLEFEST

It's the ultimate experience for Apple users — and prospective users. The all-new AppleFest®'89, at San Francisco's Brooks Hall and Civic Auditorium, September 22-24, 1989. Bigger and more exciting than ever, with more than 200 companies exhibiting the latest products for Apple II and Macintosh® computers.

There's more. Aside from all of the good things AppleFest '89 will do for your mind, registering right now will do something great for your wallet. You can save $5, $30 . . . even more, off of the regular admission price if you register now. This is your best chance to get the scoop on the hottest new Apple II and Macintosh products and applications. Like AppleWorks GS. HyperMedia. Desktop publishing and presentations. Using Apple computers in multi-media. And much, much more.

AppleFest '89. There's only one thing smarter than deciding to be there.

Deciding now.

Call 1-800-262-FEST to order tickets or for more information. (In Massachusetts, call 617-860-7100.) Remember: act today, to receive the advance registration savings.

Apple, the Apple logo, Apple II, Macintosh, HyperCard and AppleFest are trademarks of Apple Computer, Inc. AppleFest is an independent trade show, not affiliated with Apple Computer, Inc.

CIRCLE 12 ON READER SERVICE CARD

CREATIVE COMPUTING STUDIO

Task Cards Series for Unlocking Creative Thinking Skills

BY THOMAS E. BOUDROT

Making Connections

Creative thinking has been identified as one of the necessary skills for workers and citizens of the future. To make the most of an increasingly information-intensive environment, today's students will need full access their own creativity tomorrow. Traditionally, though, school experiences intended to teach children mature behaviors have gotten in the way of creativity. By always following the rules, filtering out "extraneous" information, and avoiding "mistakes," students can slowly lose touch with their innate creativity.

The Creative Computing Studio Task Card Series can help you nurture creativity in your students so that it doesn't become a lost art. In each issue's set of task cards, skills known as "creativity keys" are introduced by Monartista (Mona for short), the lively and inventive keeper of the studio.

In her studio, Mona uses popular graphics/printing utility software (such as *Print Shop*, *SuperPrint*, or *PrintMaster Plus*) to encourage kids to create "thinking masterpieces" and develop their own creative powers.

MAKING CONNECTIONS

Have you ever used that old trick for remembering the spelling of *principal* (as opposed to *principle*)? By making the connection that the principal is your pal, you've linked two bits of information. Creative connections, even the most unusual ones, help you organize and remember tons of information. They also reveal new dimensions of the original items, and often produce altogether new items and ideas that hadn't previously existed.

This month's creativity keys help children to make "tricky" connections among pictures, letters, sounds, and words. Making links between unrelated objects can be lots of fun—and it's a skill that lasts a lifetime.

MATERIALS NEEDED

You'll need at least one computer as a learning center; a graphics/printing utility program (such as *Print Shop* or *Super Print*) that makes greeting cards; computer paper; four task cards and three teacher-made samples, one each for Task Cards 1, 2, and 3 (see Preparation).

PREPARATION

1. Study your classroom printing software to be sure it creates greeting cards. It should include a variety of fonts (letter typefaces), borders, and graphics. Additionally, it should print credits on the back of the card.

2. Cut out and laminate the task cards on pages 51 and 52.

3. Create samples to go along with Task Cards 1, 2, and 3. To do this, use your printing program to generate greeting cards just like the ones pictured on each task card.

4. Teach your students how to create a card using the printing software. Be sure they know how to select borders, select and place graphics, select fonts, and input words. (Make sure your students understand that using smaller fonts allows them to get more words on each page.) They should also know how to create credits on the back of a greeting card. (If your printing program doesn't print credits, have students print their credits by hand once the card is made.)

5. If you have additional graphic disks, it's okay to use them. If not— don't worry. Each activity can be created with the standard disks supplied with the original printing program.

PRE-TASK CARD ACTIVITIES

• Ask your students, "How do ice cubes and soda pop go together?" (This one's easy: Ice cubes go in soda to make it cold.) Then ask, "How do walruses and sunglasses go together?" Point out that unlikely objects can go together if you create a connection—a story that uses both. Sometimes the story will be silly, other times it may be bizarre! Have students suggest two unlike items. Then have volunteers create simple situations where both items can be linked together.

• Write "I C U" on the chalkboard or overhead projector. What does this mean? Some students may say "intensive care unit" whereas others may guess that it is a computer component. Say the letters out loud while students close their eyes and listen. Now what does it mean? (I C U = I see you!) Point out that letters can be substitutes for similar sounding words. How many letters can the class suggest that have similarities to words? See if they can come up with multiple letters like CL (seal), IV (ivy), and 2L (tool). Make a list on the chalkboard or as a simple bulletin board that the class can use for Task Card 2.

• Ask students, "What is a rebus?" Use the dictionary to share a technical definition of the word. Then, make a picture of an eye, the letter L, and an ampersand (&) on the chalkboard or overhead projector. What word does this rebus stand for? ("eye" L & = island) Can students think of other rebus words or phrases?

Collect student's rebuses for use as "idea joggers" when they work on Task Card 3.

POST-TASK CARD ACTIVITIES

• Can You C D B ? Check your school library for the book *C-D-B* (Price, Stern & Sloan). Share the book with your students. It's fun to make transparencies of some of the one page situations as early morning "brain teasers" or to break the between-class blues.

• Media Moods. Have students capture moods by connecting art to music. Find a series of slides or art print books in the school library. Have small groups of students select a series of pictures that have similar "moods" (quiet moods, dazzling moods, serious moods). Then, have them preview music (classical music is the easiest to work with) to match the mood. *Voila*—instant art shows complete with background music!

• Rebus Writing. Have your students write a short story or riddle using pictures and words. If you have an Apple computer and *MultiScribe* word processing software, show your students how to generate rebus stories using the Michelangelo font. Point out that each key on the keyboard has two corresponding pictures ("b" is ball and balloon). Use the shift key to get the alternate picture.

Tom Boudrot is an independent educational consultant based at the University of Southern Mississippi.

TASK 1

CONNECTIONS

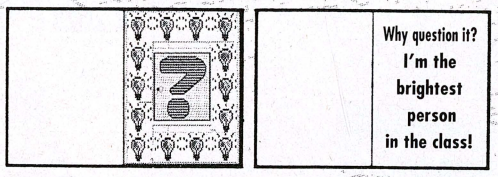
Crazy CONNECTIONS

Monartista loves to create unusual greeting cards in her studio. She selects beautiful borders and adds her favorite picture. But Mona (that's her nickname) has a hard time thinking up sayings to put inside her crazy cards. You can help Mona by making a connection between the border and the graphic on the front of her greeting card. Then, create a silly sentence (or a "phunny" phrase!) that goes with the pictures.

1. Load your printing program into the computer. Select the greeting card option from the menu.
2. Look at some of Mona's suggestions at right. Pick a border and a graphic to add to the front of your greeting card.
3. Think of a connection between the border and the graphic. Look at the sample on this activity card to see how it's done.

BORDER	GRAPHIC
pumpkins	pig
flowers	airplane
stars	candle

4. Add your idea to the inside of the card by typing a sentence. Be sure to select a font that is small enough so all of your words will fit.



5. If the program prints credits (a short sentence on the back of the card), put your name in the credit space.
6. Print your card and color it.

TASK 2

CONNECTIONS

UrD1:

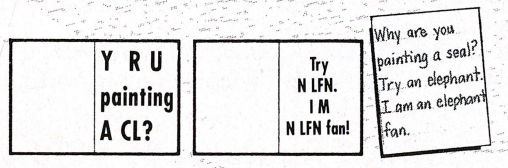
Monartista loves to make unusual cards for her students. But there's one problem with her cards... Mona's the only one who can read them! Here's what one of Mona's cards said: "R U N? F U R, C Me 2Day." Can you figure it out? It was supposed to say, "Are you in? If you are, see me today."

Show Mona that you know how to play her game. Make a card N C F (and see if) she can B A (be a) good sport!

1. Load your printing program into the computer. Select the greeting card option from the menu.
2. Think of an answer to Mona's message above (Are you in? ...) Do any of your words sound like a letter (or group of letters)? Try to use some of the suggested letter-words below:

WORD	LETTER	WORD	LETTER
yes	S	and	N
oh	O	any	NE
if	F	tomorrow	2morO

3. Design a greeting card that uses your "letter-word" answer. Use borders and graphics.
4. For fun, type the message (in real words) in the credit section.
5. Print your card and color it.



TASK 3

CONNECTIONS

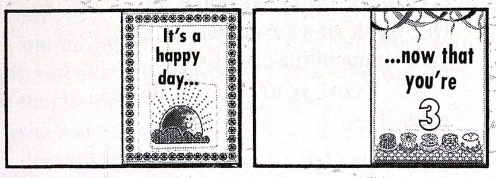
Kiddie CARDS

Little kids love Monartista's picture cards. She uses graphics and simple words to get her message across even if they're too young to read much.

Today Mona has to fill a few "kiddie card" orders but there's just not enough time— unless you help out. Can you create messages that even a three-year-old will understand?

1. Load your printing program into the computer. Select the greeting card option from the menu.
2. Look at some the kiddie card orders Mona has to fill: ➡ Pick one of the orders to the right and design a card. Pick a border and a graphic that describe the words.
3. Add words to the inside and outside of your card. Remember, keep it simple.
4. If the program prints credits (a short sentence on the back of the card), put your name in the credit space.
5. Print your card and color it.
6. Try it out! See if a small child can understand what your card says.

OUTSIDE	INSIDE
Don't worry...	your puppy will come home.
You're invited...	to my birthday party.
Have fun...	on your trip.



TASK 4

CONNECTIONS

CREATE-A-CARD

(Complete Task Cards 1, 2, and 3 before trying this card)

Monartista's on her way to New York to visit all the art museums— and you're in charge of the studio! Before leaving, Mona said, "Design some new cards— just make sure they're not boring!"

So, go ahead and be creative! Make a card for a friend BUT make sure your friend has to think about the card's message.

1. Load your printing program into the computer. Select the greeting card option from the menu.
2. Use any of the ideas Mona's taught you for designing a creative card:
   - Put a graphic and a border on the outside of a card, then write a sentence on the inside to match.
   - Use letters in place of words (or parts of words) to get your message across.
   - Create a message using pictures only.
3. If the program prints credits (a short sentence on the back of the card), put your name in the credit space.
4. Print your card and color it. Then, give it to a friend!

The Class of 2000

Their future starts here!

The 21st century is sure to present a whole new set of challenges to your students. To succeed, they need Scholastic *now*. Scholastic Software gives your students the tools they need for success: problem solving, critical thinking, basic literacy and communication skills.

And, Scholastic Software is the leader in learning environments of the future with a wide array of network compatible educational software. With Scholastic in your classroom today, you can help your students become success stories tomorrow.

For your free 1989-90 Scholastic Software Catalog, filled with curriculum-based software programs for your classroom, call

1-800-541-5513

(in Missouri call 1-800-392-2174).

CIRCLE 13 ON READER SERVICE CARD

SCHOLASTIC

Scholastic Software—*Learning Tools for the Next Generation*

SOFTWARE SHOWCASE

Software Recommended for Teachers, by Teachers

EDITED BY LOUISE C. ORLANDO

REVIEWED THIS ISSUE:

ELASTIC LINES: THE ELECTRONIC GEOBOARD

FRIENDLY FILER 128

THE WEATHER MACHINE

MATH SHOP JR.

Added Attractions

TOOL FOR THE TEACHER!

Is your class stuck on stickers? If you answer yes, then *Labels, Labels, Labels* is for you. This program is the quick answer to personalized labels and stickers for Apple II users.

With this software, you can create and customize six different labels using borders, graphics, and fonts from any popular graphics/printing program (such as *The Print Shop*). You can also add text (such as addresses) using *AppleWorks.* To create a label, just follow four menu selection steps that guide you through size, border, graphic, and font styles. The program requires 64K of memory for standard use, and 128K to print in color with the addition of a color printer. The software does come with a manual, but since the on-screen directions are very complete and easy to follow, the manual isn't really necessary.

This program is an excellent addition to any teacher's software library. Just make sure you have enough blank labels (in white or colors) in stock to handle your creative output!

***Labels, Labels, Labels* is available for $39.95 from BIG RED Computer Club, 423 Norfolk Ave., Norfolk, NB 68701; 402/379-4680.**

—Dorothy J. Cordes
(Circle 105 on Product Info. Card.)

ELASTIC LINES: THE ELECTRONIC GEOBOARD

Grade Level: *2-8*
Subject Area: *Math*
Computers: *Apple II family*
Memory Requirements: *64K*

"Caution: May cause students to love math." Sunburst didn't put this warning label on *Elastic Lines: The Electronic Geoboard* for nothing. This exciting program introduces elementary students to the world of geometry on a level they can understand. If students are exposed to geometric concepts when they are young, they will develop a strong foundation for understanding geometry in high school. Exploratory activities in mathematics help students relate familiar concrete objects to the more abstract concepts of lines and shapes.

Using a tool which resembles a geoboard, *Elastic Lines* helps students explore geometric shapes with electronic "rubberbands" stretched around pegs. Students can also move these shapes to a drawing board where they can turn and flip them to create different shapes.

Teacher success with this program depends on a prior understanding of geometric shapes and their properties. This software assumes that teachers know the properties of rectangles, squares, triangles, quadrilaterals, and parallelograms. Terms such as *scalene, isosceles,* and *congruent* are identified within the lessons, but never defined. A glossary of terms and geometric properties would have been a helpful added feature.

Before beginning students on this software, the teacher should conduct a group demonstration with an actual geoboard to review basic geometric shapes. Next, take time to instruct students on how to create shapes with the software. This is a relatively simple process requiring the use of a limited number of keys, such as the spacebar, Return, S (snap), F (flip), T

(turn), ? (help), and the arrow keys. Once students are comfortable using these keys, the teacher can select activities from the Teacher's Guide that are appropriate to their skill levels.

In the Teacher's Guide, Sunburst has provided 20 excellent student worksheets that cover skill levels from easy to advanced. Topics include: shapes, area, perimeter, polygons, transformations, congruence, symmetry, nets, coordinates, and slope. There isn't a predetermined sequence to the worksheets, so teachers are free to select activities most appropriate for their class.

Sunburst has made certain that the Teacher's Guide shines in other areas as well, by including a great Getting Started section, a Reference Guide for keys and pull-down menus, Teacher Options, an appendix with a resource list, and paper and pencil activities. Also, IIGS users will find a special section included to help them adjust the control panel in order to make this software function correctly on their machines.

In addition to the documentation, other outstanding attractions of the program include pull-down menus, compatibility with a large number of popular printers, and a teacher utility program that allows for the creation of data disks.

Overall, *Elastic Lines: The Electronic Geoboard* is an excellent tool for helping students discover and explore geometric concepts while at the same time developing their skills in creativity, critical thinking, and problem solving. The excellent documentation is extremely valuable, especially for the teacher who is less proficient in mathematics. If you are looking for a program that will introduce your students to geometry, then this software will more than meet your needs.

Sunburst Communications Inc., 39 Washington Avenue, Pleasantville, NY 10570; 800/431-1934; $65; backup included, 30-day preview.

Sally Finley, *Computer Coordinator and Teacher of the Gifted, Hunt Elementary School, Coral Springs, FL*

(Circle 106 on Product Info. Card.)

FRIENDLY FILER 128

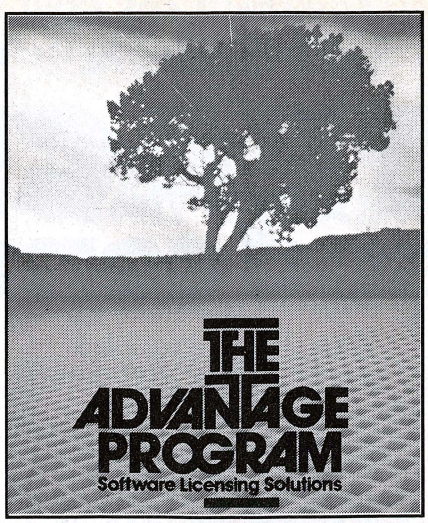
Grade Level: *4 and up*
Subject Area: *Data base utility with Science and Social Studies activity disks*
Computers: *Apple II family*
Memory Requirements: *128K*
Additional Hardware Requirements: *Printer*

If you're in the market for software that can be applied to all academic areas (and beyond!), check out this new, improved version of Grolier's venerable *Friendly Filer* program. This data base manager is both accessible enough for beginners and sophisticated enough for the computer-accomplished.

The package is divided into four basic parts: introduction, tutorial, practice, and the data base manager itself. The five-minute introduction uses a character called "InfoImp" to help students understand just what a data base is. Next in the sequence is the tutorial program, which is also quick and easy to grasp. It introduces students to the basic data base terms such as files, records, fields, sort, select, and initializing or formatting. It displays examples of the kinds of uses data bases might have, and then allows students to create their own sample records.

Next comes the practice section, which can run anywhere from 15-50 minutes and is particularly helpful in getting students to understand the difference between sorting and selecting, and when to use which depending on the type of question they are attempting to answer or the information they need. This can be a difficult concept for some students to grasp. The practice session proceeds on three levels of difficulty, and the student can exit the program at any time. Although it may take students unfamiliar with data bases almost an hour of on-task learning time to master the uses of the program, it is worth it since the program possibilities are numerous. Individual computer time could be shortened if some

Circle 14 on Reader Service Card.



Why pay $100 or even $40 per software title when you can license a complete library of 353 titles for less than a penny per title per student.

Call or write today for information on this most exciting software licensing program.

It will change the way you buy software...forever!

FOCUS
FOCUS MEDIA INCORPORATED
839 Stewart Avenue, P.O. Box 865
Garden City, NY 11530

Call TOLL FREE: (800) 645-8989
In NY, AK, HI, Call Collect at (516) 794-8900

WHAT'S YOUR FAVORITE SOFTWARE?

Each January, *Teaching and Computers* features a roundup of teachers' best-loved educational software packages. If you'd be willing to complete a 6-8 page "favorite software" survey form that we would mail to you in mid-September with an early October return deadline, fill out the coupon below.

YOUR NAME: _____
TITLE: _____
GRADE LEVEL: _____
COMPUTER TYPE: _____
SCHOOL NAME: _____
SCHOOL ADDRESS: _____
_____
SCHOOL PHONE: _____

HOME ADDRESS: _____
_____
HOME PHONE: _____

Return by Sept. 15 to:
Software Review Editor,
***Teaching and Computers,* Scholastic Inc.,**
730 Broadway, New York, NY 10003.

Now Available: **Low cost reprint copies of the most popular articles from five years of**

TEACHING and computers®

TITLE	COST	QUANTITY	SUB-TOTAL
SOCIAL STUDIES Five data base projects. Topics are: The Presidents, American Indians, Immigrants, African-American Scientists and Inventors, and World Travel. (34 pages)	**$9.95**		
MATH Four lesson plans for teaching math. Plans include spreadsheet activities and a program listing. (21 pages)	**$8.95**		
SCIENCE Four data base projects. Topics are: Pond Life, Weather, Rocks and Minerals, Snakes. (22 pages)	**$8.95**		
LANGUAGE ARTS Word processing activities and task cards. Topics include: Secrets to Teaching Word Processing, Better Letters, Write Your Own Mystery Story, Groundhog Grammar (22 pages)	**$8.95**		
SPECIAL! SUPER STARTER KIT Perfect for teachers just starting out with technology...great for inservice training! Includes award-winning Master Teacher's Guide for Beginners, plus subject-by-subject chart of Teacher's Favorite Software. (17 pages)	**$8.95**		
TECHNOLOGY FOR TEACHERS How-to guides for telecommunications, local area networking, and "Computing the Madeline Hunter Way." (19 pages)	**$8.95**		
	Total		
	Less 25% for orders of 25 or more		

NAME _____

SCHOOL / INSTITUTION _____

ADDRESS _____

CITY / STATE _____ ZIP _____

Payment must accompany orders. Please allow 4-6 weeks for delivery.
Other articles may also be available; please write for more information on the titles or subjects desired.

Clip and mail to:
TEACHING AND COMPUTERS Reprints
Scholastic Inc., 730 Broadway, New York, NY 10003

ADVERTISERS' INDEX TO FREE MATERIALS SEPTEMBER 1989

Circle No.	Advertiser	Page
10	American Educational Computers	43
--	Apple Computers	22,23
12	AppleFest	49
3	Commodore	5
9	CompuTeach	40
	Computer Learning Month	64,C3
2	Educational Resources	2
14	Focus Media Inc.	55
7	Hartley Courseware	61
1	Headstart	C2,1
--	IBM Corp.	16,17
19	Laser	C4
5	Learning Services	8
17	Memory Plus Distributors	61
--	Microsoft	45
4	Radio Shack	7
13	Scholastic Software	53
6	South-Western Publishing	9
16	Springboard Software	60
--	Teaching & Computers Products	58,59

PRODUCT INFORMATION

TEACHING and computers

September 1989
(Expires January 1)

A

Use this card for free product information.

Name_____

Title/Responsibility_____

School/Institution_____

Address_____

City_____ State_____ Zip Code_____

Phone ( )_____

Please check an entry for each category.

1. Do you (or your school/district) plan to purchase Network Version Software in the coming year?
☐ Yes
☐ No

2. Please indicate the estimated budget you will allocate for this purchase:
a. ☐ Less than $5,000
b. ☐ $5,000 to $20,000
c. ☐ Greater than $20,000

3. On which computer system will you or your school/district/ college use these products:
a. ☐ IBM/MS-DOS Compatible
b. ☐ Apple II Series
c. ☐ Macintosh

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48
49	50	51	52	53	54
55	56	57	58	59	60
61	62	63	64	65	66
67	68	69	70	71	72
73	74	75	76	77	78
79	80	81	82	83	84
85	86	87	88	89	90
91	92	93	94	95	96
97	98	99	100	101	102
103	104	105	106	107	108
109	110	111	112	113	114
115	116	117	118	119	120
121	122	123	124	125	126
127	128	129	130	131	132
133	134	135	136	137	138
139	140	141	142	143	144
145	146	147	148	149	150

or, ME
ct Info. Card.)

IACHINE

2 (5-6 with

nce
IIe, IIc, IIGS
nents: *128K*
rare: *Color*

ital role in all of
help students
ather, the Na-
hic Society has
Weather Ma-
plete teaching

PLAN YOUR YEAR WITH TEACHING & COMPUTERS!

OCTOBER

THE COMPLETE CHILDREN'S WORKSTATION: Selected software for all-purpose learning.
THE MASK MYSTERY: Celebrate with art, language arts, social studies, and the computer!
COMPUTER CRUSADERS SUPER PAGE: Graphics

NOVEMBER/ DECEMBER

SPOTLIGHT ON SPECIAL EDUCATION: Classroom perspectives.
FEEDING THE BILLIONS: Using tool software to understand world hunger.
COMPUTER CRUSADERS SUPER PAGE: Data bases

PRODUCT INFORMATION

TEACHING and computers

September 1989
(Expires January 1)

C

Use this card for free product information.

Name_____

Title/Responsibility_____

School/Institution_____

Address_____

City_____ State_____ Zip Code_____

Phone ( )_____

Please check an entry for each category.

1. Do you (or your school/district) plan to purchase Network Version Software in the coming year?
☐ Yes
☐ No

2. Please indicate the estimated budget you will allocate for this purchase:
a. ☐ Less than $5,000
b. ☐ $5,000 to $20,000
c. ☐ Greater than $20,000

3. On which computer system will you or your school/district/ college use these products:
a. ☐ IBM/MS-DOS Compatible
b. ☐ Apple II Series
c. ☐ Macintosh

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48
49	50	51	52	53	54
55	56	57	58	59	60
61	62	63	64	65	66
67	68	69	70	71	72
73	74	75	76	77	78
79	80	81	82	83	84
85	86	87	88	89	90
91	92	93	'94	95	96
97	98	99	100	101	102
103	104	105	106	107	108
109	110	111	112	113	114
115	116	117	118	119	120
121	122	123	124	125	126
127	128	129	130	131	132
133	134	135	136	137	138
139	140	141	142	143	144
145	146	147	148	149	150

Isn't it time you got your *own copy each month?*

☐ **YES!** I want my own subscription to TEACHING & COMPUTERS, at the money-saving introductory rate.

☐ **Send me a year's worth:** Just $17.95 for 6 monthly issues. (Reg. rate: $23.95)

☐ **Send me a group's worth:** Just $13.95 when I order 5 or more subscriptions, to share. (NOTE: All Group Rate copies will be sent to me each month for distribution.)

Number of subs:

My Name_____

Title_____

School_____

School Address_____

City_____ State_____ Zip_____

Signature_____

If above is NOT your school address, please indicate school name and zip here:

School Name_____ Zip_____ H4902

In Canada, prices higher. Contact Scholastic, Richmond Hill, Ont. L4C 3G5.

SCHOLASTIC

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 205 PITTSFIELD, MA

POSTAGE WILL BE PAID BY ADDRESSEE

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

TEACHING AND COMPUTERS
Reader Service Management Department
P.O. Box 5288
Pittsfield, MA 01203-9826

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 205 PITTSFIELD, MA

POSTAGE WILL BE PAID BY ADDRESSEE

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

TEACHING AND COMPUTERS
Reader Service Management Department
P.O. Box 5288
Pittsfield, MA 01203-9826

Now Available: **Low cost reprint co**
most popular articles from fi

TEACHI and comput

TITLE	COST	QUA
SOCIAL STUDIES Five data base projects. Topics are: The Presidents, American Indians, Immigrants, African-American Scientists and Inventors, and World Travel. (34 pages)	**$9.95**	
MATH Four lesson plans for teaching math. Plans include spreadsheet activities and a program listing. (21 pages)	**$8.95**	
SCIENCE Four data base projects. Topics are: Pond Life, Weather, Rocks and Minerals, Snakes. (22 pages)	**$8.95**	
LANGUAGE ARTS Word processing activities and task cards. Topics include: Secrets to Teaching Word Processing, Better	**$8.95**	

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 176 MAHOPAC, NY

POSTAGE WILL BE PAID BY ADDRESSEE

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

TEACHING AND COMPUTERS
Scholastic Inc.
P.O. Box 2040
Mahopac, NY 10541-9963

classroom group time were spent on the basics of data base management.

In the fourth section, students can create their own files. Each record can contain a maximum of 14 fields, and each file can contain as many as 184 records. That amount of power and flexibility is just about right for most class and individual student data base projects.

Perhaps the best part of *Friendly Filer 128,* though, is that it works with low-cost prepared activity disks and accompanying workbooks for Social Studies and for Science and Nature. These are worth the cost not only because they provide the teacher with some breathing time, but also because they offer entire social studies and science units. Fourth or fifth grade teachers should be able to find plenty of topics that fit their curriculum, as well as other activities that would make good projects for advanced students.

On the activity disks, each topic area begins with some background on the subject and then includes a number of data base activities. The first activity under each topic is select-or-sort. Other activities not only expose students to related information, but also are designed to help students understand the many uses of a data base management program. Language arts and library resources are also utilized. After doing a few of the activity sheets, students quickly see how the data base program can be applied to other subject areas.

The social studies and science activities provide a good model for how data bases can be integrated into your curriculum. Overall, *Friendly Filer* is a very attractive data base manager for elementary classroom use.

Houghton Mifflin, Educational Software Division, Hanover, NH 03755; $72 for program disk and backup; $19.95 each for activity disks, $24 for set of 10 student workbooks and one teacher edition; $144 for Classroom Collection of all above components; backup included, 30-day preview.

***Beth Smith**, Sixth Grade Teacher, Fifth St. Middle School, Bangor, ME*
(Circle 107 on Product Info. Card.)

The Weather Machine

Grade Level: *7-12 (5-6 with teacher guidance)*
Subject Area: *Science*
Computers: *Apple IIe, IIc, IIGS*
Memory Requirements: *128K*
Optional Hardware: *Color monitor, modem*

Weather plays a vital role in all of our lives. To help students understand weather, the National Geographic Society has produced *The Weather Machine,* a complete teaching package that can be used on its own or to introduce or complement an existing weather unit.

The Weather Machine makes use of a number of teaching tools, including a filmstrip and cassette, three program disks, and a tutorial disk. Also included are 15 copies of *The Forecaster's Handbook*—a book that gives brief descriptions of weather changes—and a binder that contains a complete description of lesson plans, worksheets, extended activity suggestions, and an extensive glossary.

The Weather Machine introduces students to the basic elements of weather. The tutorial disk explains how to use the menus and operate the program. Eight different weather conditions can be shown and understood with the program's key and color-coded maps (you can hide the key for full view of the maps). The maps help students analyze how weather conditions (temperature, wind speed, and wind direction) affect each other at seven different altitudes. The maps can be printed out, collected, and examined for problem-solving activities. The weather maps look best in color, but there is enough variety in the patterns so that it isn't difficult to match key to condition on a monochrome monitor.

(continued)

PLAN YOUR YEAR WITH TEACHING & COMPUTERS!

OCTOBER

THE COMPLETE CHILDREN'S WORKSTATION: Selected software for all-purpose learning.
THE MASK MYSTERY: Celebrate with art, language arts, social studies, and the computer!
COMPUTER CRUSADERS SUPER PAGE: Graphics

NOVEMBER/ DECEMBER

SPOTLIGHT ON SPECIAL EDUCATION: Classroom perspectives.
FEEDING THE BILLIONS: Using tool software to understand world hunger.
COMPUTER CRUSADERS SUPER PAGE: Data bases

JANUARY/ FEBRUARY

TEACHERS' FAVORITE SOFTWARE: Our annual roundup.
MAN IN THE MOON: Word processing project in language arts and science fact and fancy!
COMPUTER CRUSADERS SUPER PAGE: Desktop publishing

MARCH/ APRIL

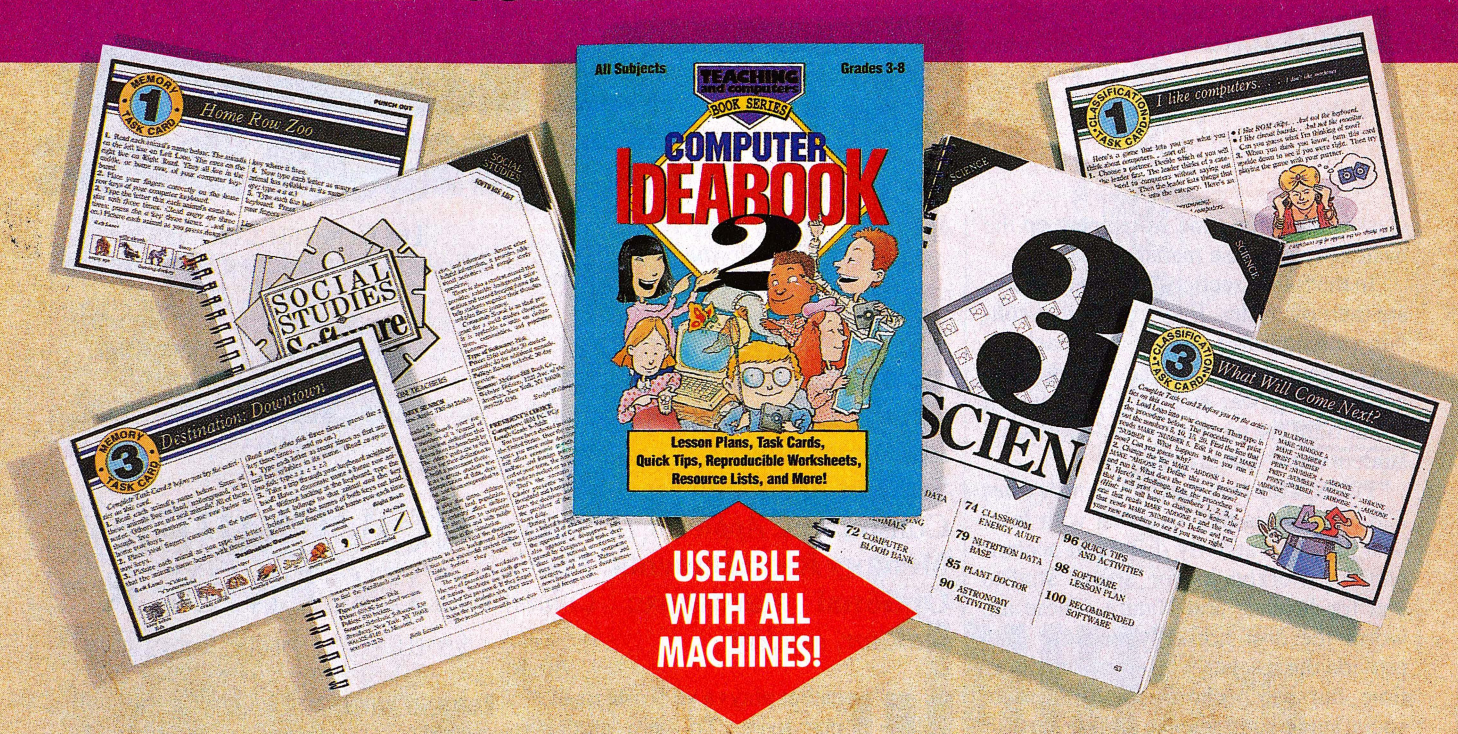
ERGO LOGO?: Interview with Seymour Papert.
BIG NUMBERS MATH: With word processing, spreadsheets, Logo.
COMPUTER CRUSADERS SUPER PAGE: Spreadsheets

MAY/JUNE

THE WIDE WORLD OF NETWORKS: Educational telecommunications links.
ENVIRONMENTAL CONCERNS: Science and multimedia.
COMPUTER CRUSADERS SUPER PAGE: Future Tools

BY POPULAR REQUEST!

THE COMPUTER IDEABOOK 2



Introducing dozens of computer activities for every major curriculum area... easy to use... and ready to use!

This brand-new book collection of pre-planned lessons, culled from the pages of *Teaching and Computers* Magazine, will make a welcome addition to your classroom.

Organized by curriculum subject, this new volume will handily enrich every major area of your curriculum with appealing and easy-to-use skills activities.

You'll find 20 lessons in all, including four cross-curriculum units to help teach problem-solving, critical reasoning, and creative expression. Usable with any computer, all lessons are based on readily available software (databases, word processing, spreadsheets, graphics). Here's a sampling of activities:

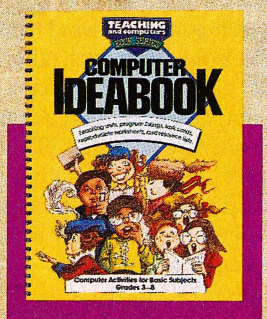
- Language arts–"Great Debates"... "Groundhog Grammar"... "Holiday Word Processing"... even more.
- Math–"Plan a Picnic"... "California or Bust"... "Coiny Island"... even more.
- Science–"Pond Life"... "Springtime Shapes"... "Snakes Data Base"... "Weather Watch"... even more.
- Social studies–"Junior Mapmakers"... "Celebrating Women's History"... "African-American scientists and inventors"... "A Nation of Immigrants"... even more.
- Software recommendations for each curriculum ...quick tips and follow-ups... program listings... reproducible worksheets.
- BONUS! 24 "Think Tank" task cards to help develop your students' thinking skills.

OI42647 *$17.95*

Still available! The Computer Ideabook 1

There's still time to order the first Ideabook collection, which offers more than 30 pre-planned curriculum lessons selected from the pages of *Teaching and Computers*. These easy-to-use lessons can be used with any computer and are based on readily-available software. You'll find:

- Math–"Baseball Lunch"... "Budget Your Lunch"...spreadsheets...tables and graphs.



- Language arts–"Enhance Storytelling"... "Adventure Stories"..."Science Fiction."
- Science–"Dinosaur Data Base"... "Classifying Animals"... "Computer Bloodbank"... "Plant Doctor."
- Social studies–"World Geography"... "Time Zones of the World"... Black American History"... "U.S. Data Files."

OI39046 *$17.95*

SCHOLASTIC

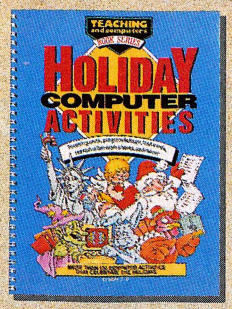
TAKE ADVANTAGE OF SCHOLASTIC'S FREE-TRIAL OFFER!

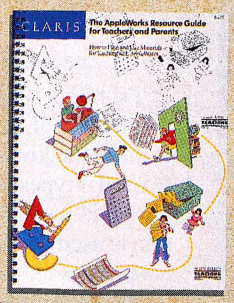
CURRICULUM NOURISHMENT

Holiday Computer Activities

Grades 3-8 Next time you celebrate a holiday with your class, let your computer join in! More than 200 self-contained activities (Thanksgiving, Fire Prevention Week, Election Day, Black History Month, Mother's Day, Bicycle Safety Week) with reproducible worksheets, task cards, and BASIC program listings. For use with any major computer.

Item Number OI39047 ***$17.95***





The AppleWorks Resource Guide for Teachers and Parents

Where to find over 125 AppleWorks templates you can use with Claris' AppleWorks software for creative lessons in social studies ... language arts ... math ... science.

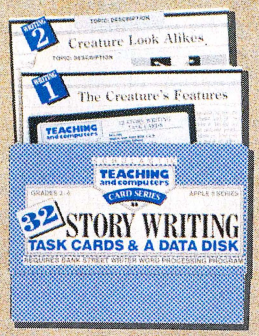
PLUS sample lesson plans; how to create your own templates or adapt others' for data bases, word processing activities, spreadsheet projects, more.

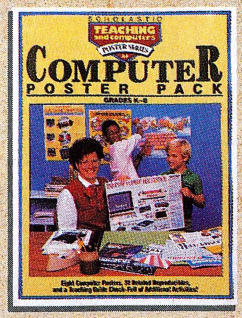
Item Number OI42613 ***$12.95***

Story Writing Task Cards

Grades 3-8 32 Task Cards, plus a data disk, that help students use a word processor to develop story-writing skills; Writing descriptions, developing plots and settings, vocabulary enrichment, more. Requires Bank Street Writer word processing program.

Item Number OI39310 ***$19.95***





Computer Poster Pack

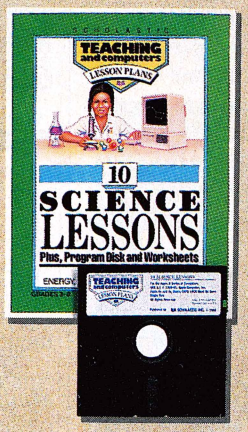
Grades K-8 Eight colorful posters, each with reproducible Activity Pages on side two, help teach computer history ... parts of the computer ... BASIC programming ... Logo ... the keyboard ... and more. Includes Teaching Guide with additional activities and worksheet answers.

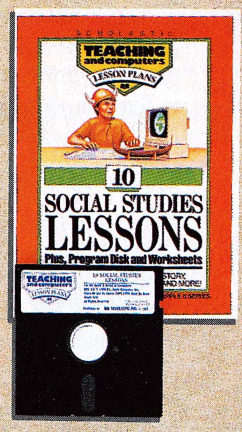
Item Number OI39341 ***$11.95***

Science Lesson Plans

Grades 3-8 10 Brief science lessons from *Teaching and Computers* magazine (energy, nutrition, plants, animals, space, the human body), each with a complete plan (including reproducible worksheets) and each with an easy-to-use BASIC program already on a disc for you. Includes how to make your own science quizzes on any topic.

Item Number OI39309 ***$19.95***





Social Studies Lesson Plans

Grades 3-8 10 social studies lessons from *Teaching and Computers* magazine (world geography, Black history, the stock market, election campaigns), each with a complete plan including reproducible worksheets and each with a ready-to-use program on a disk to save you time. Includes how to make your own social studies quizzes.

Item Number OI39278 ***$19.95***

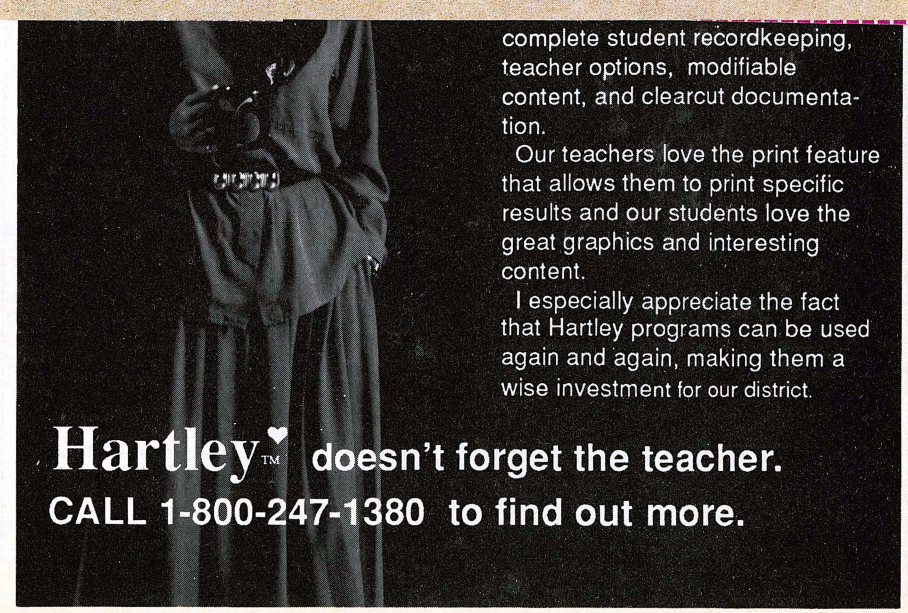
reinforce answers, and the teacher need not be around to approve or correct!

This is an ideal classroom program. Students can rotate to the computer all day to explore number relationships as they simultaneously practice important basic skills and problem solving.

Scholastic Software, P.O. Box 7502, 2931 East McCarty St., Jefferson City, MO 65102; 800/541-5513; $69.95; free backups with school version, $10 per disk for home version; 30-day preview.

***Beth Lazerick**, Secular Studies Principal, Hebrew Day Institute, Rockville, MD.*

(Circle 109 on Product Info. Card.)



Circle 16 on Reader Service Card.

Springboard Software School Partnership™

The most affordable, simple, flexible way for schools to buy software just got even better.

Affordable.
Either your school OR your school district can join by paying a minimal partnership fee each year. Schools pay only $50. Districts pay only $250.

Simple.
A four-tiered pricing structure lets you buy high-quality products for as little as $10.

Flexible.
You order disk and documentation manual sets separately. . . in any combination. Order anytime. Order as often as you like.

Now Even Better For 1989-90.
Announcing almost 140 products including Springboard,® Spinnaker® and Heartsoft® lines. There's new low

Problem-solving activities are stressed in the manual. All of the lessons outlined contain the kinds of questions for which several types of information must be used and interpreted. This new information is used to analyze other weather phenomena.

Students can look for weather trends and learn to interpret what patterns might indicate change by using the Weather Sampler, a collection of actual data from 20 different days. Precipitation, cloud cover, and wind direction are displayed as symbols and therefore can be overlaid on any of the other condition maps. This way the students can easily view and compare two conditions on the same map, gaining a broader understanding of the weather than they might get from reading a weather map in a newspaper or on TV. The Sampler Disk contains files for interpreting what conditions prevailed during the drought of 1988 and others that show the conditions during Hurricane Gilbert in September 1988. These can be used as part of an exciting learning experience that will help students interpret new data. Finally, to collect up-to-the-minute data, students with access to a modem can use the telecommunications section of the program.

In addition, students can create a personalized multimedia weather report with *The Weather Machine*. Maps can be saved by using the menu, and then turned into slides. From there, the slides can be turned into a video clip and then a possible

National Geographic Society Educational Services, Dept. 88, Washington, DC 20036; 800/368-2728; $159.95; one-year subscription to the telecommunications service, $160; backup included, 30-day preview.

Ann S. Dana, Microcomputer Consultant, District 181, Hinsdale, IL.
(Circle 108 on Product Info. Card.)

Math Shop Jr.

Grade Level: *1-3*
Subject Area: *Math*
Computers: *Apple II family, MS-DOS compatibles with Color Graphics Card*
Memory Requirements: *Apple 64K, IBM 256K*

Trump Tower or the local shopping mall can't compare to the *Math Shop Jr.* mall ... at least not for first, second, and third graders! *Math Shop Jr.* by Scholastic Software allows students to explore number relationships in an exciting new environment.

Math Shop Jr., a worthy companion to *Math Shop* (grades 4-7) and *Algebra Shop* (grades 6-8), has ten appealing new stores for the primary student to enter and help

spreadsheets, graphics). Here's a sampling of activities:

- Language arts–"Great Debates"...."Groundhog Grammar"...."Holiday Word Processing"... even more.

reproducible worksheets.

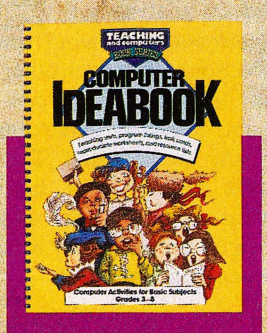
- BONUS! 24 "Think Tank" task cards to help develop your students' thinking skills.

OI42647 *$17.95*

Still available! The Computer Ideabook 1

There's still time to order the first Ideabook collection, which offers more than 30 pre-planned curriculum lessons selected from the pages of *Teaching and Computers*. These easy-to-use lessons can be used with any computer and are based on readily-available software. You'll find:

- Math–"Baseball Lunch"..."Budget Your Lunch"...spreadsheets...tables and graphs.



- Language arts–"Enhance Storytelling"... "Adventure Stories"..."Science Fiction."
- Science–"Dinosaur Data Base"... "Classifying Animals"..."Computer Bloodbank"..."Plant Doctor."
- Social studies–"World Geography"... "Time Zones of the World"...Black American History"..."U.S. Data Files."

OI39046 *$17.95*

SCHOLASTIC

The program can be used in several ways. For instance, a one-shop game (with or without a time limit of five to seven minutes) allows a student to enter one shop at a time and practice a specific skill. Alternatively, the teacher can open or close individual shops to meet specific classroom needs. Finally, there's the all-shop game, which invites students to enter all open shops until the game ends (the time limit depends on the skill of the user, but is usually from 15-30 minutes). These options give the teacher great flexibility. In all games, the problems and situations in individual shops become increasingly difficult as the student helps more and more customers.

The documentation is informative, and teachers should have no difficulty learning how to use this program. Teachers who have never used one of Scholastic's Shop programs before should take a few minutes to get used to moving around the screen. Reproducible masters are given for each shop so that teachers can review instructions for each one with the class. Two reproducible worksheets for each shop are also included.

The use of the computer for practicing basic skills in a problem-solving environment is invaluable. Students will sit together for long periods of time discussing how to find a solution. They will comment on the fact that the same problem has come up twice in a row (due to randomness). They will argue about a result and refigure answers, and the teacher need not be around to approve or correct!

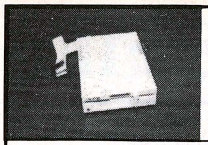
This is an ideal classroom program. Students can rotate to the computer all day to explore number relationships as they simultaneously practice important basic skills and problem solving.

Scholastic Software, P.O. Box 7502, 2931 East McCarty St., Jefferson City, MO 65102; 800/541-5513; $69.95; free backups with school version, $10 per disk for home version; 30-day preview.

***Beth Lazerick**, Secular Studies Principal, Hebrew Day Institute, Rockville, MD.*

(Circle 109 on Product Info. Card.)

Circle 17 on Reader Service Card.



5¼" DISK DRIVES FOR APPLE

1 Year Warranty
Parts & Labor
100% Compatible
Super Quiet
Adjustable Speed Control

Apple II, II+, IIe
Franklin Ace 1000
Apple IIc, IIGS
Apple IIe, UniDisk
Laser 128

Shipping & Handling $5.00

$79.00

$79.00

We have the ***ABSOLUTE*** Lowest Prices on
CHECKMATE PRODUCTS

Memory Saver GS $109.00
MultiRam GS 256K to 2 Meg ..... from $189.20
MultiRam RGB IIe 64K to 1 Meg ..... from $139.00
MultiRam IIe 64K to 768K ..... from $109.00
Q Card IIe 64K to 256K ..... from $75.00
MultiRam CX IIc 256K to 1 Meg ..... from $160.00
Pro Term $79.95

AI Applied Ingenuity
GS Juice Plus
The Ultimate GS Expansion Card
0K to 4 Meg ..... from $65.00

Super Expander IIe
W/Appleworks Exp. S-ware
0K to 1 Meg
from $52.50
1 Year Warranty

Super Expander GS
0K to 1 Meg
from $52.50
1 Year Warranty

LASER 128 EX
3 Times the Speed of a IIe
Built in Mem. Expansion Board
$445.00

800K DISC DRIVE
for II+, IIe, MAC, LASER 128
$179.00

Extended 80 Column Card
For Apple IIe
$38.95
100% Appleworks Compatible
5 Year Warranty

Super Serial Card
100% Apple Compatible
$48.95
5 Year Warranty

Graphics Printer Card w/Cable
Apple II+ & IIe $44.95
5 Year Warranty

16K Card For Apple II+
$34.95
5 Year Warranty

128K Card For Apple II+
$64.95
5 Year Warranty

UNIVERSAL Disk Controller
Run 800K Disk Drives
on your II+ and IIe
$79.00

Disk Controller Card
For Apple II, II+ & IIe
$34.95
5 Year Warranty

Cooling Fan For Apple II+ & IIe
$26.95
With Surge Suppressor

Cooling Fan For Apple IIGS
$19.95
No Noise Interference

Cables - $9.95
IIe to Modem
IIc to Modem
IIe to IMG I
IIc to IMG II
IIe to IMG II

DISKETTE STORAGE W/Lock
5¼ Holds 70 Disks $6.95
5¼ Holds 100 Disks $8.95
5¼ Holds 120 Disks $10.95
3½ Holds 50 Disks $6.95
3½ Holds 100 Disks $8.95

ACCESSORIES
Mouse Pad $4.95
Disk Notcher $4.50
Disk Clean 5¼ $4.00
Disk Clean 3½ $4.00
LASER Add on's ..... Call

Replacement Keyboard
$55.00
For Apple IIe

RF Modulator
II+ & IIe
$15.95

80 Column Card for Apple II+
$48.95
5 Year Warranty

Numeric Keypad
For Apple IIe
$34.95

5 Amp Power Supply
$49.00
For Apple II, II+ & IIe

MINI A/B Switch Box
Serial or Parallel
$24.95

CPM Card for Apple II+ & IIe
5 Year Warranty
$34.95

Joystick for Apple II+ & IIe
With Fire Button
Same as Mach III
$24.95

VISA & MC — NO EXTRA CHARGE • DEALER PRICING • +$4.00 for Shipping (Most items) • C.O.D. + $2.50

We carry only the Highest Quality products for your Apple. That's why we are the LARGEST and the BEST!
Prices subject to change without notice.

MEMORY PLUS DISTRIBUTORS, INC.
505 South 48th Street, Suite #104
Tempe, Arizona 85281
(602) 820-8819 & 830-6457
FAX# (602) 968-3211
Serving Apple Users Since 1983

10 a.m. to 5 p.m.
M.S.T.
Mon - Fri.
Univ. & School P.O. Accepted
20% Restocking charge on returned items

Circle 7 on Reader Service Card.

"From my standpoint, Hartley programs were the key to getting our teachers to use computers."

Milli Haug, Principal
West Elementary

Hartley programs are easy to use and have the best range of features available, including complete student recordkeeping, teacher options, modifiable content, and clearcut documentation.

Our teachers love the print feature that allows them to print specific results and our students love the great graphics and interesting content.

I especially appreciate the fact that Hartley programs can be used again and again, making them a wise investment for our district.

Hartley™ doesn't forget the teacher.
CALL 1-800-247-1380 to find out more.

CLASSIFIED · CLASSIFIED · CLASSIFIED

CLASSIFIED

Helps You Sell Your Products Cost-Efficiently

- **128,000 Guaranteed Circulation**
- **Targeted K-College Educational Market**
- **Reaches Influential Buyers**

RATES: 1X—$19.95 per line
4X—$17.95 per line per month
8X—$15.50 per line per month

CALL
212-505-3478

Prepayment required.
A line consists of 40 characters including spaces and punctuation.
$17 extra charge per month for any/all bold face or italic print.
25% extra for grey background.

Classified Display rates available upon request.

Visa & MasterCard accepted.

EL/TC Classified, Scholastic Inc., 730 Broadway, New York, N.Y. 10003

Publisher reserves the right to edit or cancel any advertisement and is not liable for ads that do not appear.

CLASSIFIED: Rates $19.95 per line with a 4-line minimum. Classified display: $190 per inch (one inch minimum), READER SERVICE NUMBERS available: $50 per issue (minimum 3-inch ad). Deadline for the November/December issue is September 16, 1989. Check or MO should be made out to ELECTRONIC LEARNING, Visa/ MC accepted. All text for classified advertising is accepted at the discretion of the publisher. Send to: **CLASSIFIED EL/TC,** SCHOLASTIC Inc., 730 Broadway, New York, NY 10003. Or call 212-505-3478.

CHIPS

AMIGA-COMMODORE

"FATTER AGNUS" UPGRADE $114., A501 BOARD $147., 1.3 KICK ROM $25., LOW COST CBM CHIPS, EG 8364 or 8362/$57., 8520A1/$18., 6526/$11., 6567/$15. 6581/$11
JUST OUT—COMMODORE DIAGNOSTICIAN II. NEWLY UPDATED TOOL THAT LOCATES FAULTY CHIPS ON ALL C64/128 & 1541 DRIVES. OVER 10,000 SOLD AT $6.95 (see review '88 "COMPUTER SHOPPER")..HVY
GRAPEVINE GROUP, INC., 35 Charlotte Drive
Wesley Hills, NY 10977. 1-800-292-7445

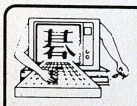
MUSIC

COMPUTER MUSICIANS SOURCEBOOK
Your #1 source for all your computer music needs
For subscription application and more details, Write: COMPUTER MUSICIANS CO-OP
3010 N. STERLING AVE., DEPT EL
PEORIA, IL 61604
(309) 685-4843

SOFTWARE

GRADEBOOK—Version 5.0 (1989E)
Award-winning program for APPLE II using teachers. Written by a teacher.
Priced for teachers.
$30 + $2.10 s/h
(Texas residents add $2.10 tax)
5.25″ & 3.5″ formats.
Updates ½ price.
School license avail.
Tech support by author. Mike Mitchell,
PO Box 2106, Conroe, TX 77305.
(409) 756-0194 or (409) 264-3114

CLASSIFIED · CLASSIFIED · CLASSIFIED



NEMESIS™ Go Master®

The only Go program to successfully imitate human play.

Toyogo, Inc.
76 Bedford Street, #34-L
Lexington, MA 02173
$79 Go Master + $6 S&H
(617) 861-0488

Go has been a way of life in the Orient for over 4,000 years. As much a philosophy as a game, Go is considered by many to be the secret of Japanese success.

"While chess is a game of war, Go is a game of market share." President Nikko Hotels

CIRCLE 7 ON PRODUCT INFORMATION CARD

CHILDREN'S SOFTWARE

Over 1000 quality educational programs. IBM, Apple, C64, TI99. SASE for brochure.

KIDWARE
1380 156th NE #H2, Bellevue, WA 98007

$31.95 U.S.A SoftTester I
30-day trial.
Program drills, tests, and grades tests on U.S. capitals and state locations on map. Printer optional/Not copy protected
IBM PC (256K) Color/bw Graphics required
Rising Dawn Software
(213) 478-6055 P.O. Box 25A04,
Los Angeles, CA 90025

---

software, clubs, camps, services

Advertise In Classified Today!

CALL 212-505-3478

***FREE* IBM SOFTWARE**

5¼" AND 3½" FORMATS
FREE CATALOG:

AP-JP INC.
PO Box 399, Islip, NY 11751-0399

CIRCLE 8 ON PRODUCT INFORMATION CARD

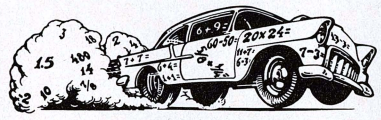
FREE SOFTWARE CATALOGS

Special Education Catalog—(Award Winner!) General Education, Cognitive Rehabilitation, Speech & Language, Reading & Early Learning catalogs also available.
Intuit Computing

1-800-633-1221

The Quarter Mile™

It's a ***hot*** arcade-style **MATH** game for ages 5 thru adult. Whole numbers, fractions, percents ***and more!*** With accessory disks: 150 topics / 34,000 problems.



- **It's a fast moving,** animated 6-lane drag race (like video arcade games), complete with smoke, screeching tires and screaming engines (has volume control).
- **The lanes scroll down the screen faster** and faster as the dragsters accelerate.
- **Your dragster gains speed** each time you answer a math problem correctly.
- **Your competitors** (in the other 5 lanes) are exact video images of your own best 5 races replayed exactly as they occurred - ***screeching tires and all!***

$45.00 *Add 5% for s/h ($5.00 max); CA residents add 6% sales tax.* **Demo: $3.00**

CALL (800) 332-3638 • In CA (415) 268-0804

Barnum Software
2201 Broadway, Suite 201T, Oakland, CA 94612

CIRCLE 9 ON PRODUCT INFORMATION CARD

THE GEO-SOFT ELECTRONIC ATLAS

From Afghanistan to Zimbabwe, the **'Geo-Soft Electronic Atlas' puts the world at your fingertips!** The most complete Atlas-on-Disk available for the Apple II family at any price. Combines an interactive Atlas, a lively review game, and comprehensive test instrument for a **totally integrated geography software solution.** Perfect for research, review, and evaluation. Powerful yet simple to use. Features and options for any teaching environment. This outstanding new series will quickly become **an indispensable teaching tool in your classroom or media center.** For ages 8-80. Apple compatible.

Geo-Soft
We Bring You The World
253 Lake Thomas Drive, Winter Haven, FL 33880
(813) 299-8421

CIRCLE 10 ON PRODUCT INFORMATION CARD

HARDWARE

IBM PCjr SPECIALS

Full line of IBM PCjr Hardware
* Educational Software Available
* Memory Expansion to 640K
* Second Floppy Drives
* 286 Accelerator Boards
* Parallel Printer Ports
* Full Size Keyboards
* Modems, Int. & External
* Joysticks, Serial Cables
* PCjr Network cards
* BASIC Cartridges, Mice
* PCjr Tested Shareware
* Complete Computers
* Repair Service

Send for Catalog Today
COMPUTER RESET Dept EL
P.O. Box 461782
Garland Texas 75046
214-276-8072
Fax: 214-272-7920

YOUR IBM & COMPATIBLE SHAREWARE DISTRIBUTOR

Over 700 programs in library to choose from: Educational, Business, Programming, Games, Christian, etc…5¼" & 3½" avail. We have been recommended in a leading computer magazine article to be YOUR CHOICE for the latest shareware. Send 50¢ in U.S. stamps for current newsletter and new winter catalog.

T & Z SOFTWARE
PO Box 780217-E, Sebastian, FL 32978-0217.

Approved Vendor of the Association of Shareware Professionals

---

PAPER

COLORED PAPER
School Approved

1-800-322-2580
In Michigan (313) 227-9401
VISA, MC, C.O.D.
Minimum Order $25.00
S/H Add $3.50

Write for Our ***FREE*** Brochure Featuring
COLORED PAPER & SEASONAL PACKS
Continuous Labels, File & Post Cards, Disks, Classic Laid Stationery and Much More!

The Experts • PO BOX 928 • Brighton, MI 48116

A. – BRITETONES • 9-1 2x11 • CLEAN EDGE
Red • Yellow • Green • Hot Pink • Blue • Gold
PRISM PACK 25 of each color.....$12.95
Single Color 50 Pack.....$ 3.95
Envelopes 25 Single Color.....$ 2.50

B. – SOFTONES • 9-1 2x11 • CLEAN EDGE
Pink • Ivory • Green • Yellow • Blue • Lilac
PRISM PACK 25 of each color.....$10.95
Single Color 50 Pack.....$ 3.25
Envelopes 25 Single Color.....$ 2.50

C. – GLOTONES • 9-1 2x11 • CLEAN EDGE
Glo-Pink • Glo-Melon • Glo-Lemon
PRISM PACK 25 of each color.....$ 6.95
Single Color 50 Pack.....$ 4.95
Envelopes 25 Single Color.....$ 2.50

D. – CERTIFICATE PAPER • 9-1 2x11 • CLEAN EDGE
PARCHMENT PACK 25 with Gold Metallic Seals.....$ 4.95

Multiple Choice.

If you're looking for Apple®-compatible computers for your school, the Laser 128 Family has three excellent answers.

All sell for less than the new Apple //c Plus. All run the full library of Apple //e and //c educational programs. And all include valuable extras.

Take our LASER 128EX.® *Incider* magazine said it "looks like a //c, has enough standard equipment to fill every slot of a //e, and runs faster than a IIGS.®" Translation: students spend less time waiting, more time learning. There's even a built-in expansion board for adding additional memory.

Or consider our LASER 128EX/2.™ It surpasses even the Apple //c Plus. It includes a ProDOS®-compatible real-time clock, MIDI interface for musical instruments, your choice of a 5¼" or 3½" internal disk drive, and the ability to daisy chain drives just like a IIGS.

Finally, there's our LASER 128.® Its price and performance have earned it high marks in hundreds of thousands of classrooms and homes nationwide.

For more information, call 312/540-8911 (West Coast 503/690-8086), or write LASER COMPUTER, 550 E. Main St., Lake Zurich, IL 60047.

After all, it isn't every day you find a multiple choice test in which all the answers are right.

LASER 128

LASER 128, LASER 128EX and LASER 128EX/2 are registered trademarks of LASER Computer, Inc. Apple, Apple //c, Apple //e, Apple IIGS and ProDOS are registered trademarks of Apple Computer, Inc.

CIRCLE 19 ON READER SERVICE CARD